

ABSTRACT

WARREN, JEFFREY MELVIN. The Impact of Social Cognitive Theory and Rational Emotive Behavior Therapy Interventions on Beliefs, Emotions, and Performance of Teachers. (Under the direction of Edwin R. Gerler, Jr., Ed.D.)

Mental health continues to be a concern for individuals of all ages in the United States. Teachers and students are greatly affected by the impact of mental health related issues. Teachers perform in less than effective ways and student success is hindered when distress is experienced at school.

Professional school counselors are in an excellent position to assist students and teachers in becoming more mentally healthy by providing interventions derived from counseling theory. A quasi-experimental design was used in the following field study to examine the impact of two teacher interventions based on Social Cognitive Theory and Rational Emotive Behavior Therapy. Additionally, the relationships of several of the constructs of these theories were explored. Teachers ($n = 42$) were assigned to one of three conditions; face-to-face, on-line, or no treatment waiting list control. Both treatments spanned an eight-week period. Pre-tests and posttests were incorporated to measure the relationships of the constructs under investigation and the effectiveness of the interventions. Overall, the face-to-face intervention was found to be more effective in reducing irrational beliefs than the on-line treatment. Analyses of variance indicated significant differences between the face-to-face and control groups for irrational beliefs, specifically self-downing attitudes and authoritarian attitudes toward students. However, significant differences across groups were not found for efficacy beliefs. Furthermore, neither depression, anxiety, or stress were reduced as a result of exposure to either treatment. Regardless of condition, teachers indicated similar thoughts, feelings, and behaviors when responding to hypothetical classroom scenarios. Self-blaming thoughts did emerge from the control group in response to efficaciousness related to the classroom scenarios. Moderate to strong

relationships were found amongst several of the constructs examined in this study. Irrational beliefs were found to be negatively related to general efficacy beliefs, while positively correlated with depression, anxiety, and stress. Irrational beliefs rooted in worry were found to be significantly related to depression, anxiety and stress. Additionally, general self-efficacy and depression, anxiety, and stress were negatively correlated. The findings of this study indicate a need for further exploration of the relationships between irrational beliefs, self-efficacy, and depression, anxiety, and stress. Furthermore, continued development and implementation of mental health interventions for teachers, rooted in Rational Emotive Behavior Therapy and Social Cognitive Theory, is warranted.

The Impact of Social Cognitive Theory and Rational Emotive Behavior Therapy
Interventions on Beliefs, Emotions, and Performance of Teachers

by
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A dissertation submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Counselor Education

Raleigh, North Carolina

2010

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DEDICATION

To school counselors and teachers, present and future...
May you be encouraged to continue to challenge yourself,
in the classroom and in life.
Be reminded that change is often hard, but very rewarding.
Advocate for your self and each other,
your mission is complementary.
See the light in the eyes of the students you teach.
They are our future...provide them with the tools for success.
Do your best, and they will too.

BIOGRAPHY

Jeffrey M. Warren is a former teacher and school counselor currently in private practice. He also maintains a school-based counseling contract with Franklin County Schools. He is a National Certified School Counselor (NCSC) as well as a National Certified Counselor (NCC), an Approved Clinical Supervisor (ACS), and a Licensed Professional Counselor (LPC). Jeffrey's interests related to school counseling include: the school counselor's role in professional development through consultation, school counseling and technology, and positive behavior support/classroom management. He is also interested the theory evolution of Rational-Emotive Behavior Therapy.

Jeffrey was born in Greenville, North Carolina. He resided in rural, eastern North Carolina during childhood and currently calls Wake Forest home. He earned a BS in Elementary Education and an MS in Counselor Education, both from East Carolina University. He has completed Primary and Advanced Trainings in Rational Emotive Behavior Therapy (REBT) at the Albert Ellis Institute in New York City. He has also attended numerous trainings and educational sessions related to school counseling, clinical supervision, and counseling theory and techniques.

Jeffrey enjoys spending time with family, especially his wife and son. His leisure activities include sports such as playing basketball, running, and tennis. He also enjoys reading, and watching the National Geographic Channel and the History Channel.

ACKNOWLEDGEMENTS

First and foremost I would like to thank my best friend and life partner, Jenna Noelle Warren for displaying great patience and support over the past four years. Throughout this experience Jenna constantly heard me say, “I have a lighter load next semester, we will have more time together.” Unfortunately, this idea never materialized. Yet, Jenna continued to encourage me. Now, with much delight, Jenna's and mine, I can safely say, “Next semester will be a breeze!” My son, Jameson, has continued to be a bright spot in my life and has relentlessly kept me active in sports and grounded in life. Thanks, Big Man! I would also like to thank my parents, Jimmy and Kaye Warren, as well as Sue and Mike Clemente, for their continued demonstration of love, patience, and support over the years. My grandparents, especially Julius and Ethel Warren, have remained a significant source of strength over the years, despite their deaths many years ago. Additionally, I cannot fail to mention my appreciation for the guidance and support many other have offered along this rewarding academic journey. Thanks especially to: Dr. Jack Schmidt, Dr. Florence Weaver, Dr. Travis Lewis, and good friend, Dr. Robert Rawls, who since our early high school days has referred to me as “his protege.”

Dr. Gerler, my advisor, has undoubtedly been a “cheerleader” over the past four years. He has always offered helpful feedback and support while allowing me the freedom to explore my interests. I always left his office smiling and motivated to “conquer the world.” I would also like to acknowledge Dr. Baker, Dr. Nassar-McMillan, Dr. Grimmitt, Dr. Ting, Dr.

Lupton-Smith, and Dr. Martin for their unyielding support and guidance. My doctoral experience would not have been the same without you.

Lastly, I want to thank Marla Peoples, Director of Student Services for Franklin County Schools, for her assistance during the initial stages of this study. Without her efforts, this study may not have been possible. Additionally, I am grateful to the principals, school counselors, and teachers of Franklin County School for their support and/or participation in this study.

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CHAPTER I

Introduction

School systems have implemented numerous initiatives (U.S. General Accounting Office, 2000), standards and strategies (Strong, Silver, Perini, 2001), and practices (NCREL, 2004) with the goal of effecting change in teacher performance and student achievement at the school level. Despite exhaustive research and interventions, however, achievement has been relatively stagnant over the past 30 years (Leschly, 2003). The U.S. Department of Commerce (USDOC, 1971-2007) compiled data confirming the completion rate for high school has lingered around 85-88% since the 1970s. Additionally, data collected by the U.S. Department of Health and Human Services indicates a consistent increase in mental health related issues for all ages (NCHS, 2008). Despite these bleak findings, theoretical frameworks and empirical research suggest the potential exists for increasing student outcomes and promoting the mental health of teachers.

Rationale for Intervention

Knowledge of cognitive science and human development is integral for educators in empowering students to be successful (NICHD & NCATE, 2005/2006). Awareness of the teaching process and teaching standards alone hinders the ability of teachers to effectively educate students. It is vital for teachers to acknowledge and address the thoughts, beliefs, and behaviors that influence their classroom performance (Gatbonton, 2008).

Several researchers have suggested that teacher efficacy is strongly related to the achievement of students (Ashton, Webb, & Doda, 1983; Berman, McLaughlin, Bass, Pauly, & Zellman, 1977). Ashton (1985) defined teacher efficacy as teachers' "beliefs in their ability to have a positive effect on student learning" (p. 142). These beliefs impact teachers' thoughts, emotions, behaviors, degree of tolerance for frustration, and exertion when performing in the classroom (Bandura, 1997). Teachers attributing their failures to external factors are less likely to experience strong emotions, thus reacting in more helpful ways while exhibiting high levels of efficacy (Bandura, 1977). Inversely, teachers have the potential to appraise personal attributes as flawed based upon their perceived meaning of classroom situations. When this occurs, intense emotions such as depression, anxiety, and stress may be exhibited. These emotions may lead to low efficacy, disparaging behaviors, and overall poor performance. In addition to evaluating their efficacy, teachers often rate themselves as a whole and create unwarranted trouble for themselves and their students (Ellis, 2005). Despite these unhelpful thoughts and emotions experienced by teachers, school systems rarely attempt to provide mental health support. Administrators often turn to other ventures in an effort to foster teachers' sense of efficacy and improve classroom performance. A mental health intervention for teachers would provide a humanistic component frequently absent in current attempts to increase efficacy beliefs. Teacher efficacy appears to have impact on teacher and student performance, however, strategies for developing and maintaining these beliefs have largely been ignored.

While teacher efficacy appears to be directly linked to teacher and student performance, findings from several experimental studies suggested that Rational Emotive Education (REE) is effective in increasing student achievement (DiGiuseppe & Kassinove, 1976; Omizo, Cubberly, & Omizo, 1985). REE is a derivative of Rational Emotive Behavior Therapy (REBT) developed by William Knaus in the early 1970s. It is impossible to determine the overall impact of REE or REBT on classroom settings because there is no empirical evidence of their utility in terms of teacher efficacy. Notwithstanding, research on this topic appears to have vitality and may lead to the identification of additional strategies or interventions that can be implemented to impact teachers, students, and society.

From a developmental perspective, it is most important to place emphasis for such interventions on elementary school teachers. Ellis (2005) suggested the beliefs individuals develop at an early age are often solidified through indoctrination and repetition. Unfortunately, children are frequently witness to adults emoting and behaving in less than helpful ways. These emotions and behaviors often imply irrational thinking and become a part of the cognitive, emotional, and behavioral repertoire of children. However, if children are taught at an early age, through modeling and direct instruction, how to think, emote, and behave in self- and society-helping ways, they will be more adept at facing adversity.

Furthermore, due to the apparent relationship between teacher efficacy and student achievement (Goddard, Hoy, & Woolfolk-Hoy, 2004), it seems appropriate to focus this research on elementary school teachers. Elementary school teachers are very powerful

influences in the lives of children entering school. The first years of school appear to be very crucial and often determine the ultimate success of students. Elementary school teachers may have the potential to increase student achievement by participating in interventions focused on addressing teacher beliefs. Academic success at an early age will likely provide a foundation for continued school success.

At the school-level, teachers and student support staff members, including school counselors and school psychologists, have successfully implemented the REE curriculum for students in elementary grades (Donegan & Rust, 1998; Knauss, 2001; Vernon, 2004). School counselors can also mend the gap between counseling theory and practice for teachers as well. A shift in the delivery of school counseling services toward teacher consultation would allow school counselors to more effectively aid teachers in assisting students achieve success (Baker, 2000). Students would essentially be indirectly impacted by school counselors' consulting with teachers in a prescriptive mode (Kurpius, 1978 in Baker, Robichaud, Westforth-Dietrich, Wells, & Schreck, 2009) about counseling theory and classroom application.

Several popular stances on school counseling programming, such as the ASCA National Model (ASCA, 2005) and Strength-Based School Counseling (SBSC; Galassi & Akos, 2007), have emerged over the years. The ASCA National Model (2005) for example, suggests the role of school counselors is to support the development of the total student while integrating counseling and education. Through a comprehensive school counseling program,

school counselors have the potential to foster student development in a number of ways. On the other hand, Strength-based School Counseling (SBSC) identifies school counselors as agents in promoting the well-being of students through the development of strengths (Galassi & Akos, 2007). SBSC focuses on identifying and building on strengths as well as the development of new strengths (Galassi, Griffin, & Akos, 2008). School counselors can navigate both models by utilizing consultation to develop teacher and student strengths. An intervention focused on addressing the beliefs of teachers would exemplify the stated mission of SBSC (Galassi & Akos, 2007) and align with the ASCA National Model (ASCA, 2005). School counselors can develop strengths of teachers and students by providing training and consultation related to counseling theory. Therefore, knowledge of and the dissemination of counseling theory appears essential as school counselors strive to impact all students.

Purpose of Study

Through personal and professional experiences, teachers were noted responding to classroom situations in seemingly unfavorable ways. Examples of teacher responses included: yelling, belittlement, negative non-verbals, and illogical student consequences. At times, responses remained covert or were internalized.

Teacher responses, internal and external, have the potential to be detrimental to both teacher and student performance. Through education and training on cognition, emotions, and behaviors, it is possible that teachers may learn more helpful ways to respond to adverse situations in the classroom and school environment.

The main purpose of this study was to investigate the impact an intervention titled, Performance Enhancing Strategies and Techniques for Teachers (PEST-T) had on teachers' beliefs and emotional and behavioral responses to students and classroom situations. Developed by the principle investigator, PEST-T was based on the principles of Social Cognitive Theory (SCT; Bandura, 1986) and Rational Emotive Behavior Therapy (REBT; Ellis, 1962).

In addition to the experimental goals, correlations were explored for the major constructs under investigation; irrational beliefs and efficacy beliefs. Warren (2010a, 2010b) suggested a relationship between these variables and demonstrated a need for further investigation. Understanding the relationships between irrational beliefs and efficacy beliefs will guide future development and revisions of the PEST-T trainings.

A final goal included the exploration of participants' perceptions of likely cognitive, emotional, and behavioral responses to classroom scenarios. This investigation offered additional insight, beyond the experimental and correlational goals. A qualitative look at teachers thoughts, feelings, and behaviors may be invaluable as research in this area emerges.

Importance of the Study

This study offered a framework elementary school teachers can utilize for exploring and assessing thoughts, emotions, and behaviors. Teachers often experience stress, anxiety, and other intense feelings due to the overburden of teacher-related tasks (Knight, 2000). The interventions in this study supported teachers in overcoming the obstacles and stressors

faced in the classroom and school environments. By learning strategies that have the potential to increase well-being, mental health, and performance, teachers may experience decreases in stress and burnout (Sparks, 2001). Elementary school teachers, and students can benefit from the interventions delivered in this study. Teachers are in a prime position to not only teach academics but encourage and demonstrate mental wellness. Students are capable of learning self-help strategies from their teacher through instruction and classroom observation. Students can utilize these skills to respond to adverse or stressful situations in more helpful ways. Therefore, the importance of this study is multifaceted and systemic, stretching beyond the typical teacher in-service.

Research Questions

Experimental research questions:

1. Does PEST-T reduce irrational beliefs held by teachers?
2. Does PEST-T increase perceived efficacy of teachers?
3. Does PEST-T reduce feelings of depression, anxiety, and stress among teachers?
4. Which PEST-T intervention is more effective in reducing irrational beliefs?

Correlational research question:

5. Is there a relationship between efficacy beliefs and irrational beliefs?

Qualitative research question:

6. Will the PEST-T trainings lead teachers to respond in more helpful ways to the classroom situations presented on the Classroom Scenario Questionnaire?

Assumptions

Rational Emotive Behavior Therapy (REBT) suggests irrational beliefs lead to unhealthy negative emotions and self-defeating behaviors. This research assumed that irrational beliefs may be preceded or accompanied by efficacy beliefs. These two types of beliefs may theoretically overlap in some instances.

When conducting educational research, it is often difficult to achieve randomization among samples (Gall, Gall, & Borg, 2003). Randomization typically is implemented to increase the possibility of similar groups. It was assumed that when analyzing the data

collected from this study, the groups were similar. Several measures were administered to explore the similarities among groups prior to the interventions.

The participants in this study used self-reporting to complete the measures. There was a potential for participants to report inaccurate information for numerous reasons when completing the measures. It was assumed however, that the data collected from the participants was reliable and accurate.

Limitations

With any study, there are certain limits the researcher is unable to overcome. In this study specifically, there are several limitations worth noting. The sample for this study comprised voluntary participants. Voluntary, versus mandatory participation, hindered the size of the sample in this study. As a result, low statistical power may have led to a Type II error. In this case, a relationship may have existed but was likely overlooked. A voluntary sample also brings into question the reason for other potential participants' lack of participation in the study. There may be a difference between the participants and those who choose not to participate thus skewing the findings of the study. This discrepancy therefore, suggests a threat to external validity. The findings of this study may not be generalizable to teachers that are not interested in learning “performing enhancing strategies.”

Finally, the primary investigator of the study also served as the facilitator of the interventions. As a result, experimenter expectations may have been a causal element in this

study. Remaining objective and free from bias was a key in reducing this threat throughout the study.

Delimitations

Delimitations refer to characteristics that may have limited the scope of a study. In this study, several boundaries were defined due to its experimental nature and societal constraints. This study only addressed beliefs, emotions, and performance of elementary school teachers. Middle and high school teachers likely experience similar thoughts and feelings but were not included in this study.

The majority of the teachers at the targeted schools in this study were female. Therefore, it was expected that few males would participate in the study. Generalizability of the findings were limited to female elementary school teachers. Additionally, the study took place in a rural county which may further decrease the generalizability of the findings.

Definitions

- Beliefs – Thoughts/cognitions of self, others, or life.
 - Irrational Beliefs – Rigid, dogmatic, absolutistic thoughts.
 - Rational Beliefs – Preferential, logical, and realistic thoughts
- Efficacy – One's perceived ability to reach a desired goal.
- Emotions – Derived from thoughts of events or experiences.
 - Health Negative Emotions –Feelings, including concern, frustration, and annoyance, that lead to helpful behaviors.
 - Unhealthy Negative Emotions –Feelings, including anger, anxiety, depression, and guilt, that lead to unhelpful behaviors.
- Low Frustration Tolerance – Also known as “I-can't-stand-it-itis.” Assumption that a situation is too hard or too difficult to bear. Related to problem avoidance.
- Reciprocal Determinism – The interactive and bi-directional process that occurs between an individuals thoughts/emotions, behavior, and the environment.
- Teacher Efficacy – A teacher's perception of their ability to complete or reach a desired goal.
- Vicarious Learning – Learning from watching others perform a task. Also known as observational learning.

Organization of the Study

Five chapters are included in this dissertation. The rationale, purpose of the study, importance of the study, research questions, limitations, and assumptions are detailed in Chapter I, presented above. Definitions of key terms used throughout this dissertation are also included. Chapter II provides literature review of the current trends in professional development. This chapter also details Social Cognitive Theory and Rational Emotive Behavior Therapy. An integrative analysis of these two theories, which forms the basis for this study, is presented as well. Chapter III, titled Method, reports the participant information, instrumentation, and the design of the study. A detailed account of the research procedure is provided, with a summary to conclude the chapter. The results of the intervention and related findings are provided in Chapter IV. Chapter V includes a discussion of the results and recommendations for future research and practice.

CHAPTER II

Review of History, Theories, and Literature

Current Trends in Education

Professional Development

Each year, teachers are required to participate in various forms of professional development. This professional development, however, is rarely designed to help teachers improve themselves (Seferoglu, 1996). Instead, professional development is often centered around the delivery of instruction, academic content, and educational updates and revisions. Sparks and Hirsch (2000) described effective professional development as rigorous, curriculum-based, and immersing teachers in subject content and teaching methodology. Teachers often experience feelings of stress, anxiety, and resentment as a result of the massive amounts of teaching methods and curriculum-based information rigorously presented (Knight, 2000). Additionally, many teachers think that professional development is largely unrealistic. Traditional professional development may actually lead teachers to experience additional, unwarranted stress, thus hindering their ability to utilize the material presented. Sparks (2001) discussed the importance of educating teachers about ways stress and burnout may impact their personal and professional lives. Nonetheless, professional development focused on helping teachers help themselves, mentally and emotionally, has been largely ignored despite the recent increase in teacher stress and burnout.

Due to the recent budget crises, many school districts are facing four-day school weeks. Additionally, student and teacher programs are being cut and positions are being eliminated (Cook, 2009). These cutbacks, aimed at balancing the budget, neglect to address the extra responsibility and burden teachers are acquiring. Teachers are experiencing larger class sizes, lack of autonomy, increased workloads, inadequate feedback, decreases in staff support, and increases in disciplinary issues (Cedoline, 1982, & Ursprung, 1986 in Pines, 2002). These environmental changes will likely lead teachers to experience increased levels of stress and intense emotion. Distressed teachers will further create a learning environment that is not conducive to teacher or student success.

Increases in teacher responsibility, stress, and burnout, due to recent budget cuts are all reasons for low-cost professional development targeting the mental health of teachers. By demonstrating concern for mental and emotional well-being, professional development will likely be perceived by teachers as helpful, practical, realistic, and encouraging.

School counselors can play an integral role in providing mental health-based professional development. School counselors can utilize their knowledge-base and training experiences to develop and present mental health trainings for teachers. As a result, school counselors would effect change in teacher practices and the overall school environment, as proponents of Strength-Based School Counseling have recommended (Galassi & Akos, 2007). For example, Galassi, Griffin, & Akkos (2008) suggested SBSC is aimed at evidence-based strength-enhancement instead of prevention, reaction, or problem reduction.

Conducting professional development, designed specifically to promote teacher wellness and mental health may foster a solution-focused consultation model and simply remind teachers that they matter (Dixon & Tucker, 2008).

Student Achievement

Leschly (2003) considers student achievement an educational outcome largely measured by standardized tests. While each state determines the measures used to assess student achievement, the United States as a whole, lacks uniformity and consistency (Grissmer, Flanagan, Kawata, & Williamson, 2000). This lack of congruence across the nation creates difficulty when exploring and comparing student achievement and effective interventions. Research findings, however, suggests that teachers can increase student achievement through perseverance (Ross & Bruce, 2007) , effectively managing their classroom (Woolfolk, Rosoff, & Hoy, 1990), paying close attention to at-risk students (Ashton, et. al, 1983; Ross & Bruce, 2007), attempting difficult new ideas (Ross, 1998), and increasing student efficacy (Ashton et. al, 1983). Strong, Silver, and Perini (2001) claimed that teachers can incorporate rigor, thought, diversity, and authenticity in the classroom as ways to increase student achievement.

Research and practice do not mirror each other in terms of strategies for increasing student achievement. Researchers suggest character and personality traits of teachers largely influence student achievement. On the other hand, school systems focus on student programming and school-community collaboration in hopes of impacting achievement. A

report by the United States Department of Education (1998), stated some school systems are focusing on reading programs to help students learn to read as a way to increase student achievement. The United States General Accounting Office (2000) reported the use of school-community interventions aimed to increase student achievement. For example, some school systems are offering students with part-time jobs after-school and weekend instruction to accommodate their schedules. Yet, Darling-Hammond (2000) suggested that teacher training and certification is the best indicator of student achievement.

Research has provided many suggestions, strategies, and initiatives for increasing student achievement. However, these investigations have led to inconclusive findings. Teacher efficacy, however, consistently appears to have a positive relationship with student achievement. Findings from several studies suggested this strong correlation (Anderson, Greene, & Loewen, 1998; Ross, 1992; Watson, 1992). Ross (1992), for example, found student achievement to increase when the classroom teacher maintained greater efficacy as compared to other classrooms and teachers. In sum, these studies suggested that student performance will be positively impacted as teachers increase efficacy beliefs. The key then, to maximizing teacher and student performance, is to implement an intervention that will impact teacher beliefs. Implementing this type of intervention with elementary school teachers has the potential to lead increases in teacher effectiveness and student achievement. When students experience success in the elementary grades they have greater potential to continue to be successful throughout their academic career.

The Role of the Professional School Counselor in Student Success

The American School Counselor Association (ASCA; 2005) suggested school counselors can play a vital role in providing education and training to teachers. While largely unaware of issues surrounding curriculum and instruction, school counselors can utilize counseling theory and skills to impact teachers' ability to cope. Additionally, school counselors can support teachers in classroom management and behavioral practices. By addressing these two integral components of teaching, school counselors may indirectly influence the success of students.

System Support, one element of the ASCA National Model (ASCA, 2005), depicted school counselors in consultation, collaboration, and teaming roles. Additionally, Baker (2000) described various modes of consulting school counselors may employ when delivering comprehensive services. Through these modes of consultation, school counselors can provide teachers with self-helping and student-helping skills aimed at promoting success through empowerment (Galassi, Griffin, & Akos, 2008). Developing and implementing professional development and small group seminars based on the integration of Social Cognitive Theory (SCT) and Rational-Emotive Behavior Therapy (REBT) may provide teachers with tools to interact more effectively with students. These presentation formats would provide school counselors an opportunity to disseminate the principles and classroom application of these frameworks. School counselors would be wise to explore other ways to

support teachers in applying and demonstrating the frameworks of SCT and REBT in the classroom.

Including a venture of this magnitude within a comprehensive program would afford school counselors the opportunity to demonstrate *leadership, advocacy, and collaboration*, and the potential to foster *systemic change* (American School Counselor Association, 2005). Through leadership, advocacy, and collaboration, school counselors can promote the success of students. Systemic change would likely occur as school stakeholders, including teachers, principals, parents and students, gain insight into the intricacies of SCT and REBT and their integrative applicability in the classroom, at home, and life, in general.

Furthermore, it is plausible for students' personal and social development to be impacted as school counselors incorporate a psycho-educational component designed for teachers within the comprehensive school counseling program. Baker (2000) described school counselors as providing skill-enhancing programs designed to directly impact students. School counselors can also design skill-enhancing programs for teachers. This additional component would further improve the reach of the comprehensive school counseling program.

Skill-enhancement for teachers would likely result in a valuable, yet indirect way of impacting student success. Ideally, teachers would infuse the acquired counseling-based knowledge into the daily classroom regimen with the help of the school counselor. School

counselors would continue to provide classroom guidance, small group counseling, and individual sessions to promote personal and social development (Schmidt, 2003).

Review of Relevant Theories

Social Cognitive Theory

Albert Bandura first presented Social Cognitive Theory (SCT) in 1986 as a derivative of Social Learning Theory (Pajares, 2002). This change was due, in part, to Bandura's increasing awareness of the impact of cognition, as opposed to learning, on human functioning (Grusec, 1992; Pajares, 2002). Many of the hypotheses and principles Bandura contrived decades earlier however, remained the centerpiece for his revised work. Through SCT, Bandura promotes the notion that cognitive processes are a intermediary determinant of human functioning and largely responsible for the environments impact on behavior (Price & Archbold, 1995). Over the years, Bandura has hypothesized about numerous concepts including reciprocal determinism, self-efficacy, and teacher efficacy.

Reciprocal Determinism. Bandura (1978) described the interactions between the personal, behavioral, and environmental domains as reciprocal determinism. Thoughts, beliefs, and emotions, which comprise the personal domain, interact bi-directionally with the behavior domain. Essentially, the personal domain influences behavior and behavior influences thoughts and emotions. In another interaction, behavior influences the environment while the environment impacts behavior. A final bi-directional interaction occurs between the environment and the person. In this paradigm, these three types of

interactions may simultaneously occur. However, Bandura (1986) suggested (as cited in Zimmerman, 1989) these domains do not possess equivalence in power, but are in constant flux, dependent upon the other domains.

The concept of reciprocal determinism can be utilized to explore intrapersonal concerns, interpersonal actions, and societal issues (Bandura, 1978). The underlying philosophy of reciprocal determinism appears to support a constructivist view.

Constructivism refers to the notion that individuals create their own meaning or construct knowledge of their experiences (Hein, 1996). While the individual is not completely an independent agent, neither are they solely influenced by the environment (Bandura, 1989). There appears to be an intimate interplay between the individual and the environment that leads to a construction of various thoughts and behaviors.

Several characteristics encompass the interpretive and constructive nature of SCT including vicarious learning, symbolizing, forethought, self-regulation, and self reflection. These processes, occurring within the individual (personal domain), have the capacity to overlap, co-occur, and exist dually. These systems of self foster the capacity and agency for individual change and promotion. By engaging in these processes, consciously or unconsciously, individuals self-guide in directions that appear to be the most attainable and appropriate.

Individuals frequently obtain information and data about their surroundings through learning, both direct and indirect, or vicarious experiences (Bandura, 1978). These

experiences are often converted into symbolic meaning that the individual can more easily recollect (Crain, 2000). The symbols, created to make meaning of situations, are later retrieved when deemed necessary by the individual. The retention of experiences allows individuals to engage in additional cognitive processes, specifically forethought, self-reflection and ultimately self-regulation. Creating meaning of experiences through symbolic representation allows individuals to engage in forethought. Forethought is exercised when anticipation of consequences and outcomes, as a result of contemplated action, motivates an individual to set goals and respond (Bandura, 1989). A perspective grounded in forethought offers guidance, clarity, and purpose (Bandura, 2001). Bandura (1989) suggested that forethought along with self-regulation, guides action. Individuals regulate their emotions, behaviors, and degree of motivation through a system of “checks and balances” based on internal and external influences. While forethought is a precursor to self-regulation and motivation, self-reflection significantly impacts the decision to perform a specific behavior (Bandura, 1989). When engaged in self-reflection, individuals explore and modify their thoughts of their ability to perform a behavior or task. Efficacy beliefs play a vital role during the process of self-reflection. While not as central as efficacy beliefs, motivation is also influenced by the feedback received by the individual as well as the required length of time to complete the goal (Stone, n.d.).

Self-Efficacy. In 1977, Albert Bandura, introduced efficacy expectation as a vital component of behavior change and learning theory. Efficacy expectation, synonymous with

self efficacy, is defined as “the conviction that one can successfully execute the behavior required to produce the outcomes”(Bandura, 1977, p. 193). Self-efficacy is largely determined through four sources of information. Self-efficacy is affected by personal experiences, witnessing others experiences, societal influences, and physiological reactions in various situations. Self-efficacy is thought to impact behavioral choices, effort and persistence, and cognitive and emotive responses (Bandura, 1986). Bandura (2001, p. 10) stated, “efficacy beliefs are the foundation of human agency.” Self efficacy appears at the core of all factors and determinants of motivation and behavior. Bandura (1977) described efficacy as an individuals perception of her or his ability to successfully complete a task. Efficacy beliefs lead an individual to choose a behavior, determine a level of effort, and persevere (Bandura, 2001).

Another determinant of behavior, albeit less influential than efficacy beliefs, is outcome expectancy. Outcome expectancy was identified by Bandura (1977) as an individual's approximation that an outcome will be the result of a certain behavior. An individual with high self-efficacy is likely to expend a high degree of energy and persist on a given task. The individual will perform the task in a way that is consistent with obtaining the desired outcome. For example, a teacher with high self efficacy in classroom instruction will likely think there is a great deal that can be attempted when motivating students who show low interest in school. As a result, the teacher will persevere and make an effort to motivate the student. Inversely, an individual displaying low self efficacy may expend little

energy, give up easily or yet, not attempt the task, while still inferring a particular behavior would lead to the desired outcome. A teacher with low self efficacy in the delivery of classroom instruction would offer little effort in motivating disengaged students.

Self efficacy, guided by four main sources of information, is largely the result of self-persuasion (Bandura, 1977, 1989). These information sources persuade individuals in their perceptions of their ability to complete a desired task. One source of information guiding efficacy beliefs is performance accomplishments. The outcome of a direct experience influences the strength of efficacy held for the task. Persistence and perseverance often leads to mastery and accomplishment of desired tasks (Bandura, 1989). If successful at reaching a desired goal, the level of self efficacy is confirmed. If the individual fails at the task, it is likely the degree of efficacy for the task will be weakened. Vicarious experiences are another, albeit less reliable, source of efficacy information. Essentially, an individual's efficacy beliefs are influenced when witness to the performance of a task. If the witnessed task is achieved, the individual believes they too will likely be able to achieve the desired goal. Additionally, if the task is not mastered, the observer will infer similarly of their capacity to achieve the goal. A third form of information influencing efficacy beliefs is verbal persuasion. Social persuasion occurs when one attempts to convince or persuade an individual's behavior through verbal means. Suggesting an individual has the ability to successfully achieve a desired task, influences the efficacy beliefs related to the behavior. Bandura (1977) suggested that verbal persuasion, while not a strong source of efficacy

beliefs, may have more of an impact on outcome expectancy. A final source of information that impacts efficacy beliefs is emotional arousal. Efficacy beliefs rely on the degree of the emotional response to a situation. Heightened emotions, such as fear and anxiety, often hinder performance. If an individual's emotions are heightened in a specific adverse situation, it is likely efficacy beliefs will diminish and alter performance outcomes. Alternatively, if arousal is minimized and physiological symptoms are not present, efficacy beliefs may remain constant and support performance.

Efficacy beliefs for completing a task can be generalized to other tasks or situations (Bandura, 1977). If a teacher, for example, maintains a high efficacy belief for instruction, this perceived ability to effectively instruct may be extended to classroom management. The ability of individuals to generalize efficacy to other areas of life is indicative of the impact of cognitive processes on behavior and the environment.

Teacher Efficacy. Over the past few decades, educational researchers have pushed teacher efficacy to the forefront as an extension to Bandura's theory of self-efficacy. Teacher efficacy is comprised of teaching efficacy and personal efficacy (Ashton, Webb, and Doda, 1983). These constructs are defined as a teachers' beliefs about the connections between teaching and learning (teaching efficacy) and their efficiency as a teacher (personal efficacy) respectively. Through experience and training, teachers develop beliefs in their own ability to create desired outcomes.

Researchers have linked many variables to increases or decreases in teacher efficacy. Huang, Lui, and Shiomi (2007) found a significant positive correlation between teacher efficacy and self esteem. The data suggested that as teachers acquire experience, teacher self efficacy and teacher self esteem increases. DiFabio & Palazzeschi (2008) found a significant positive relationship between teacher efficacy and emotional intelligence. Emotional intelligence is defined as “the capacity to process emotional information accurately and efficiently, including the capacity to perceive, assimilate, understand, and manage emotion” (Mayer, Salovey, & Caruso in Mayer & Cobb, 2000, p. 165). These findings suggested that emotional intelligence is linked to teacher self efficacy in managing classroom behavior, engaging students, and implementing useful teaching interventions.

Ross and Bruce (2007) explored professional development and its impact on teacher efficacy. Designed to increase teacher efficacy, professional development appeared to produce changes in teachers' beliefs about their ability to manage classroom behaviors. Other changes in efficacy beliefs were not significant. Ross and Bruce (2007) concluded that professional development, although important in the advancement of educational endeavors, lacks utility in impacting teacher efficacy.

Researchers have recently explored teacher efficacy in relation to student achievement. Some investigators suggest that teacher efficacy and student achievement have a direct positive correlation (Goddard, Hoy, & Woolfolk Hoy, 2004; Ross, 1998). Ross and Bruce (2007) contended that teachers with high efficacy are more likely to increase student

achievement. Henson (2001) purported that academic achievement increases and students are more successful when their teacher possesses high efficacy beliefs.

Low self efficacy has the potential to impede the ability of teachers to function optimally in classroom and educational settings. Pintrich and Schunk (1996) suggest that a teacher's belief that he or she is unable to manage classroom behaviors is likely to lead to the avoidance of classroom management techniques. The teacher will often "give in" to unruly students because the task of managing the class is seen as exceeding their competence, thus perpetuating further lack of efficacy in classroom management. It is conceivable that this cycle is applicable to various other aspects of teaching, including working with low functioning students, communicating with teachers and parents, and lesson plan development and delivery.

The impact of teacher efficacy on student achievement appears obvious and well supported. Poulou (2007) found that personality traits, self-perceptions, and drive influence teacher efficacy. Educational researchers, however, have devoted little effort and resources to exploring these factors and their impact on teacher efficacy.

Rational Emotive Behavior Therapy

Albert Ellis developed Rational Emotive Behavior Therapy (REBT) in the mid-1950s based on the premise that humans disturb themselves, not by what happens but through their thoughts about what happens (Ellis & Harper, 1975). Ellis posited that humans have an inborn tendency or predisposition to think irrationally by placing demands on

themselves, others, and life. Demands are statements of rigidity and often include words such as “should,” “must,” and “ought.” Evaluative thoughts most often accompany these demands. “I can’t stand it,” “It’s awful,” and “They are terrible,” are common thoughts used to evaluate situations. As a result of the demanding thoughts and evaluative beliefs, unhelpful negative emotions including anxiety, anger, depression, shame, and guilt frequently emerge, leading to negative behavioral consequences (Dryden, 2003).

Rational beliefs are a more functional alternative to irrational thoughts. Rational beliefs include preferential statements such as “I prefer things go my way but they don’t have to” or “I would like for him to do what I say, but if he doesn’t, it’s not the end of the world.” Because of their logical manner and negation of the irrational, these thoughts lead to helpful negative emotions (concern, bother, or frustration) that elicit more helpful behavioral consequences.

Rational Emotive Behavior Therapy employs many humanistic qualities in the philosophy of emotion and life. These include: (a) constructivism, (b) self-actualization, (c) long-range enjoyment of life, (d) unconditional acceptance, and (e) existential choice (Ellis, 1996). As a result of this humanistic stance, many techniques and tools have been developed to foster rational thoughts, explore emotions, and encourage helpful behaviors. The ABC Model (Ellis, 1962) is a popular and useful aid used by many to address and challenge irrational beliefs. Other emotive, cognitive, and behavioral strategies including, role play, in vivo desensitization, imagery, laddering, and shame attacking exercises are useful within a

REBT framework in effecting change in thought and behavioral patterns (Ellis & MacLaren, 2005). A comprehensive body of literature spanning 60 years supports the usefulness and value of the REBT system of therapy (David, Szentagotai, Eva, & Macavei, 2005; Haaga & Davison, 1989).

Rational Emotive Education. Between 1970 and 1974, William Knaus (2001) developed Rational Emotive Education (REE), an educational program designed for classroom delivery, aimed to help children develop optimally through the promotion of rational thinking and helpful behaviors. REE consists of a series of lessons designed to educate and create awareness of the connections between thoughts, emotions, and behaviors.

Much has been written on REE and its application and benefit toward children in the classroom. Related research has suggested that REE has excellent potential in providing students with a framework from which to explore their thoughts, feelings, and behaviors in classroom settings (Trip, Vernon, & McMahon, 2007). While tailored to teach students the connections between thoughts, feelings, and behaviors, REE largely ignores the influence teachers have on students (Vernon, 2004). REE appears to overlook the importance of educating teachers on classroom strategies such as modeling rational thinking and demonstrating self-helping behaviors.

Simply educating students on emotional and behavioral responsibility seems to fall short of adequately enhancing the school environment through REBT. Teachers need to take a more prominent role in demonstrating emotional well-being in the classroom. However,

researchers have conducted only a few studies related to the impact of REBT on classroom teachers (see Forman & Forman, 1980; Nucci, 2002). While research findings related to teacher efficacy suggest that REBT is a viable method for increasing teacher performance, more research is needed.

Potential Effect of REBT on Teacher and Student Performance

To date, few researchers have addressed the influence of professional development on teacher efficacy. Of the studies conducted, the primary focus of the professional development for teachers entail practical solutions including communication skills (Fritz, Miller-Heyl, Kreutzer, & MacPhee, 1995) and peer coaching (Edwards, Green, Lyons, Rogers, & Swords, 1998). This type of professional development neglects to address teachers' core beliefs that influence their emotion and behavior (Ellis & Dryden, 1997). While this type of professional development offers support to teachers, irrational beliefs are maintained, leading to unhealthy negative emotions and unproductive behaviors. For teachers, efficacy beliefs are a way of rating their perceived success at a task. Because teachers are human, and humans are genetically predisposed to think irrationally, teachers often rate themselves as a whole, conditional of their success (Ellis, 2005). Thus, a teacher who has a high sense of efficacy in a certain task is likely to have a high self esteem when involved in the task, while the same teacher maintaining a low sense of efficacy for a different task will then likely present a low self esteem when involved in that task. Findings by Huang, Lui, & Shiomi (2007) suggested this relationship is present between teacher

efficacy and self esteem. Self-esteem decreases when people base their self worth on an activity, such as teaching, and then negatively evaluate their performance as a teacher (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). REBT supports these findings, while suggesting teachers accept themselves unconditionally. This implies teachers viewing themselves as humans who sometime fail and succeed at teaching related tasks. This failure does not translate to who they are as a teacher or person. This philosophical concept of REBT also supports unconditional other acceptance (UOA) and unconditional life acceptance (ULA), (Ellis & MacLaren, 2005). These humanistic tenets of REBT appear useful in helping teachers form preferential, accepting philosophies of themselves, their students, and life.

A study conducted by Singh and Stoloff (2008) demonstrated the irrational beliefs that many teachers maintain. While the authors suggested that teachers' participating in their study maintained personality traits exemplary of effective teachers, the inverse is presumed under the theoretical framework of REBT. An overwhelming majority of the participants appeared to hold strong, rigid beliefs regarding communication, respect, sensitivity towards students, and teacher inquisitiveness. REBT postulates that these strong, rigid beliefs held by teachers lead to unhealthy negative emotional and behavioral consequences (Dryden, DiGiuseppe, & Neenan, 2003). These unhealthy negative consequences have the potential to directly interfere with teachers' ability to effectively teach. Student achievement will likely

decrease if teachers are well-trained in classroom instruction, yet have emotional disturbances that impede instructional delivery.

Recent findings by Di Fabio and Palazzeschi (2008) suggested the intrapersonal and adaptability dimensions of emotional intelligence are linked to teacher self-efficacy. Teachers who have difficulty understanding how they feel and trouble adapting to problem situations appear to have lower self-efficacy. Additionally, teachers with lower self efficacy may have difficulty identifying how they feel and adapting to problem situations. This concept has the capacity to become self-fulfilling and cyclical in nature. Without appropriate intervention, teachers may continue to indoctrinate themselves with unhelpful thoughts leading to unproductive teaching and ultimately low student achievement. REBT, however, appears to address these dimensions of emotional intelligence and associated concerns (see Warren, 2010a).

Scientific and logical processes for exploring and controlling emotions are provided with this framework while promoting a flexible orientation to adverse events (Ellis, 1971). For example, Warren (2010b) developed and conducted teacher trainings based on REBT in a effort to reduce irrational beliefs and increase teacher efficacy. These trainings were presented in two formats; face-to-face and on-line. The findings of this study suggested both formats of the training were effective in reducing irrational beliefs. The findings also suggested the trainings increased teacher-efficacy (see Appendix K). Additionally, a qualitative investigation of teachers' perceptions of these trainings by Warren (in review)

suggested increased well-being and improved relationships. Teachers reported being less demanding of students, family, and life situations while thinking in more flexible ways. Teachers also reported the trainings led to more emotional control and more effective responses to adverse situations. The findings also suggested these variables enhanced relationships with family and students (See Appendix L). Additionally, the face-to-face group participants (90.9%) and the on-line group participants (100%) indicated they would recommend this REBT training to other teachers.

While most professional development aimed at increasing teacher efficacy continues to focus on concrete intervention including peer mentoring (Dole & Donaldson, 2006), Internet navigation (Charalambous & Ioannou, 2008), and curriculum instruction (Martin, McCaughtry, Hodges-Kulinna, & Cothran, 2008), teachers continue to struggle with self actualization, ill-managed thoughts, unhealthy negative emotions and acceptance. These internal conflicts negatively impact teacher and student performance. Rational Emotive Behavior Therapy appears to be a viable intervention for helping teachers achieve their potential in the classroom and in life while living happier in the process. Through professional development focused on the philosophy of REBT, as espoused by Warren (2010a), teachers may be able to further enhance students' potential for social, emotional, and academic success.

Theory Integration

In a literature review, Warren (2010a) suggested REBT could be employed to increase teacher efficacy. Warren (2010b) later found a weak relationship between irrational beliefs and efficacy beliefs, despite low statistical power. While a strong relationship between these constructs has not yet been confirmed, a theoretical backing appears solid and warrants further explanation.

Social Cognitive Theory (SCT) and Rational Emotive Behavior Therapy (REBT) are both considered cognitive behavioral theories due to their emphasis on cognition and behavior. When exploring these two theories conjunctively, there appear to be several analogous and converging concepts. Although cognition is a central component of both, the theories focus on diverging thought processes that aid in the consolidation of the theories.

Both REBT and SCT support the claim that modeling can have a significant impact on human behavior, specifically children's behavior. Ellis (1975) suggested children, already susceptible to irrational thought, often solidify their beliefs as a result of observing and imitating their parents and teachers. For example, when children witness their teacher consistently emoting and behaving in self-helpful ways, they are highly likely to demonstrate comparable reactions in similar situations. Bandura, Ross, and Ross (1961) also suggested that children will imitate behaviors exhibited by adults. Overt actions, voice levels, facial expressions, subtle comments, and gestures all influence a child's behavior (Ellis, 1962). Therefore, it is plausible that students will imitate teachers' unhelpful, self-defeating

behaviors, which according to REBT, are grounded in irrational belief. A teachers' display of unhelpful behaviors essentially serves as permission for students to behave in a likewise manner (Bandura, Ross, & Ross, 1961). When children act out these vicariously learned behaviors, they are often reprimanded or punished by a teacher, acting on irrational beliefs. The teacher and student will frequently continue this reindoctrination of thoughts, feelings, and behaviors.

For example, a teacher maintains the irrational belief, "Students should always do what I say and when they don't I can't stand it!" When a student does not follow this demand, the teacher becomes angry or enraged. As a result of these dysfunctional emotions, she reprimands the student by yelling and pointing her finger. The next day while playing, the student demonstrates the vicariously learned behavior by yelling and pointing his finger at a classmate when he loses a game. The teacher again reprimands the student. This likely creates a conflict for the student who is reprimanded for imitating the behavior observed of the teacher. Thus, cognitive dissonance will likely be experienced as the student attempts to predict future outcomes and demonstrate control of his behavior (Bandura, 1997).

Furthermore, Bandura (1989) suggested a student in this predicament may self-identify as inefficacious and dwell on the behavioral failure, further hindering future performance. Faith in the capability to make appropriate behavioral choices may be compromised as well. Rumination of the behavioral failures and reprimands may lead to feelings of worthlessness and hopelessness (Ellis, 1962). These thoughts and feelings will

almost certainly decrease motivation and prevent the student from excelling in school. A similar pattern of events may transpire for the teacher in this situation as well. These interactions between this student and teacher demonstrate a clear convergence of SCT and REBT. Observational learning (SCT), efficacy beliefs (SCT), irrational beliefs (REBT), reciprocal determinism (SCT), and the interaction of thoughts, feelings and behaviors (REBT) all appear to influence the outcome of the above example.

One diverging, yet complementary, aspect of these theories is the focus on cognition type. SCT centers on inferential thoughts (ie. efficacy beliefs). Inferential thoughts, such as efficacy beliefs, are based on assumptions or what is thought to be truth. “There is nothing I can do to get through to difficult students,” is an example of an inferential thought. Bandura (1991) suggested that self efficacy beliefs impact other thought processes, emotion, and motivation. The specific thought processes Bandura (1991) referred to are not explicated however. Yet, REBT discounts inferential beliefs while suggesting evaluative beliefs are the source of emotional disturbance. Both thought processes however, appear to play a legitimate role in motivation (Bandura, 1991) and behavior (Ellis & Tafrate, 1997).

In further analysis of the previous example, the student received contrary sets of behavioral expectations from one source, the teacher. The student, reflecting and attempting to regulate his behavior through forethought, lost faith in the ability to meet the teacher's behavioral expectations. After failing to negotiate the diverging expectations, the student inferred that meeting the teacher's demands were not possible, thus decreasing self-efficacy.

The student then evaluated this inference or perceived self-efficacy. A plausible evaluation would be, “I should be able to meet the expectations of the teacher and because I can't, that must prove I'm no good. Furthermore, I can't stand it!” These evaluations may lead to feelings of depression and anger. As a result of these dysfunctional feelings, the student may behave in unhelpful, self-defeating ways creating further detriment to academic success.

This pattern of thought, emotion, and behavior appears to be best accounted for through the integration of SCT and REBT. It is conceivable that SCT, while sound and logical in the detail of cognition, fails to address the full scope of the thought processes available to human agency. For example, it is plausible to assume that physiological responses may provide information about the perceived capability to perform a task (Bandura, 1977). However, it is not plausible to assume that anxiety will be experienced when faced with a situation in which the perceived self efficacy is low. Bandura (1977) suggests modeling and desensitization to reduce anxiety but fails to adequately address the cognitive process that precedes the physiological responses.

REBT suggests that the perceived inability to complete a task, if evaluated irrationally, will likely lead to anxiety and the potential for eliciting a physiological response. Additionally, if the inability to complete the task was evaluated rationally and logically, a functional emotion such as concern, would be demonstrated thus reducing or inhibiting a physiological arousal. In this case, efficacy would not be reduced due to physiological responses because the emotional arousal would not be experienced.

An individual's thought processes, emotions, and behaviors continue to interact and impact the environment and each other just as Bandura (1978) described. A student receives feedback about his behavior, self-reflects, and regulates his behavior. These processes are based on vicarious learning as well as direct experiences, verbal persuasion, and emotional arousal. In the previous example, it should be noted that the feedback received for yelling, while negative in the classroom, may be successful in other settings (ie. home, playground, daycare). This may create further conflict and confusion when attempting to engage in self-regulation. The degree to which a child can apply higher order thinking skills to solve these internal conflicts also influences outcome. While this concept is not age specific, younger children may be more susceptible to experiencing this dissonance. It is likely that young children do not have the mental capacity to address these internal conflicts by thinking in more abstract ways. As a result, the ability to problem solve may be quickly diminished due to further failure, resulting in low frustration tolerance (Ellis, 1962).

There appears to be a specific theoretical relationship between frustration tolerance and self efficacy. Walen, DiGiuseppe, and Dryden (1992) suggest low frustration tolerance stems from thoughts such as “I cannot stand it” or “It is too hard, unpleasant or unbearable.” These thoughts often lead to avoidance of behaviors, procrastination, and hinder individuals from reaching their goals (London, 1995). Efficacy beliefs also have the capacity to aide or hinder goal attainment (Bandura, 1989). A weak efficacy belief, for example, will often lead an individual to make no attempt to complete the task.

A question such as, “How much can you do to motivate students who show low interest in schoolwork?” found on the Teacher Self Efficacy Scale (Bandura, n.d.), is designed to assess a teacher's perceived ability in instruction. A teacher indicating *nothing* or *very little* when answering this question suggests little, if any, perceived ability in achieving this goal. In this case, the teacher would likely not be motivated to attempt to reach the goal. Essentially, the teacher implies the goal would be too hard or difficult to achieve. This would indicate the teacher is suffering from low self-efficacy or low frustration tolerance. The apparent theoretical convergence of efficacy beliefs and low frustration tolerance is demonstrated in this example. It is therefore plausible to hypothesize that increasing a teacher's frustration tolerance will essentially increase the degree of efficacy perceived for a given task.

Helping teachers understand the interrelationship of REBT and SCT concepts, specifically those addressed above, will likely afford teachers strategies to foster rationality, functional emotions and self-helping behaviors in the classroom. Furthermore, teachers would increase general awareness of the information individuals frequently use to form efficacy beliefs. This acquired knowledge would help teachers to influence and better shape their students' thought processes as outlined in SCT and REBT. As a result, of appropriate modeling and training, students would adapt and incorporate a new healthier emotional philosophy (Ellis, 1975). Teachers, as well, would likely develop a more functional, healthier, philosophy of life.

Social Cognitive Theory (SCT) and Rational Emotive Behavior Therapy (REBT) are both dynamic frameworks for understanding human cognition, emotion, and behavior. Over the years, these theories have been applied separately in various settings with great success. SCT and REBT appear to have the capacity to be implemented in an integrative fashion.

An academic setting seems most appropriate for the application of this integration due to the influence and impact of teachers and schools on students. Instead of following societal expectations, subjecting and indoctrinating children to think and behave in less than helpful ways, schools can best serve their students by taking steps to address teachers' emotional disturbances and unhelpful practices. With teachers thinking, emoting, behaving in more rational, logical, and functional ways, students will likely follow.

Synopsis

An intervention, founded on the theories of SCT and REBT, appears to be a viable means to increasing teacher efficacy and thus increasing teacher performance. The findings of this literature review suggest teacher and student performance can be impacted directly and indirectly. Research findings suggest that an REBT intervention, to address unhelpful thoughts and emotions teachers are likely to experience in and out of the classroom, has the potential to increase student achievement. If teachers' thoughts are rational and realistically grounded, effective instruction is more likely to occur. Additionally, teachers would be more accepting and tolerant of their students as fallible humans and less likely to give up when educating academically-challenged students. If teachers apply the philosophical frameworks of SCT and REBT in their life and classroom, they will likely model helpful thoughts,

emotions, and behaviors. This notion is congruent with social learning theory and exemplified by the infamous Bobo doll experiment (Bandura, Ross, & Ross, 1961). In this experiment children exposed to an aggressive adult behaved in aggressive ways similar to those of the model. Additionally, when presented with a nonaggressive adult, children responded with more composed behaviors. The influence of teachers' classroom behavior appears to be just as powerful. Ellis (1975) contended that children will adapt and incorporate a new healthier emotional philosophy if provided with training and modeling. When students witness their teacher consistently emoting and behaving in self-helpful ways, they are highly likely to demonstrate comparable reactions in similar situations.

Several limitations of this literature review are worth noting. There is much research and literature on teacher efficacy and its effects on student achievement. Additionally, the review found promising results for student achievement when REE was applied to students. This review, however, failed to find research on the effects of an REBT-based teacher intervention aimed at increasing teacher efficacy and/or student achievement. As such, the contents of this literature review are comprised only of concepts and ideas that appear to be applicable in school settings. Currently, these ideas lack data to support their utility and effectiveness.

Furthermore, an attempt was made to be comprehensive and objective in the research and writing process of the present review. The research and literature compiled on the variables discussed within this review were presented accurately while exploring the

implications of the concepts and ideas shared. Notwithstanding these efforts, there remains the potential for bias. Nevertheless, this review is thought to shed light on a viable intervention that has the potential to change the present direction of education and mental health.

This literature review demonstrated the potential influence Social Cognitive Theory and Rational Emotive Behavior Therapy can have on teacher and student performance. The breadth and depth of the impact SCT and REBT can have on teachers, children, and society appears to stretch far beyond the classroom, however. Professional development and training of teachers in SCT and REBT appears to be a viable alternative to past and present ventures to increase teacher and student performance. It is hoped that this review will lead to further investigations of SCT and REBT, teacher efficacy, and teacher and student performance.

CHAPTER III

Method

Participants

The participants for this study comprised elementary school (kindergarten through fifth grade) teachers in a rural school system in the Southeast. The Director of Student Services notified the principals of the elementary schools about the opportunity for teachers to participate in a study. The principle investigator made follow-up contact with the principals of each school. A day and time was arranged to present an overview of the study to the teachers of the participating schools. Teachers signed up to participate in the interventions on a voluntary basis. Teachers interested in the trainings contacted the principle investigator via email. Continuing Education Units (CEUs) were awarded to the participants at the completion of the training. Prior to the study, the superintendent of the school system was contacted for approval to conduct the research. The study was also approved by the Institutional Review Board (IRB) at North Carolina State University.

Instruments

Numerous instruments were used for data collection in this study. Many of the instruments in this study were utilized for collecting quantitative data. Several of the instruments however, were implemented for qualitative data gathering purposes. These measures are listed below with overviews of each.

Depression Anxiety Stress Scale-21(DASS-21)

The DASS-21 (Lovibond & Lovibond, 1995) is a 21-item self-report measure designed to assess participants degree of depression, anxiety, and stress (see Appendix B). The original DASS contains 42 items. The DASS-21 consists of three scales (depression, anxiety, and stress), each containing 7 items each. The depression scale explores participants degree of dysphoria, hopelessness, devaluation of life, self- deprecation, lack of interest/involvement, anhedonia, and inertia. Items within this scale include, “I felt I wasn't worth much as a person” and “I found it difficult to work up the initiative to do things.” The anxiety scale assesses autonomic arousal, skeletal musculature effects, situational anxiety, and subjective anxious affect. For this scale, participants respond to items such as “I found myself in situations that made me so anxious I was most relieved when they ended” and “I feared I would be “thrown “ by some trivial but unfamiliar task.” The stress scale investigates difficulty relaxing, nervous arousal, easily upset/agitated, irritable/over-reactive, and impatience. Items within this scale include, “I found myself getting upset by quite trivial things” and “ I was intolerant of anything that kept me from getting on with what I was doing.”

For sub-measure, respondents use a 4-point scale to report the degree each item was experienced over the past week. Responses can range from “0” (did not apply to me at all) to “3” (applied to me very much, or most of the time). The subscales as well as the total scale scores are typically multiplied by two to align with scores from the DASS. Raw scores

are frequently converted into percentiles to determine severity rating for each variable and the three variables combined. Scores are considered 'normal' when ranging from 0-78th percentile. Scores can be classified as 'mild' (78-87), 'moderate' (87-95), 'severe' (95-98) or 'extremely severe' (98-100).

Cronbach's alpha was used to estimate reliability for each of the scales and the total score of the DASS for non-clinical populations. Reliability is adequate for all sub-scales and the total scale. Alpha ranged from .89 (anxiety) to .94 (depression). The reliability for stress was estimated to be .93. Alpha for the total score of the DASS is .96. Convergent validity of the DASS is considered to be high when compared to other scales measuring the same constructs. Depression, anxiety, and stress are theoretically related, therefore the correlations between these scales are inherently high (Crawford & Henry, 2003).

Teacher Sense of Efficacy Scale (TSES)

Tschannen-Moran and Woolfolk Hoy (2001) developed the TSES (see Appendix C) with the goal of capturing teachers' perceived efficacy. Perceived efficacy is considered to be a self-judgment of a teachers' ability to control the outcome of a situation. Teacher efficacy is specifically related to perceived control of student engagement and learning.

The TSES, originally consisting of 52 items, is a 24 item, self-report measure. Items comprise questions such as, "How much can you do to get through to the most difficult students?" Respondents are provided with a 9-point scale ranging from "1" (Nothing) to "9" (A Great Deal) to answer each item.

Three sub-scales have been identified through factor analyses. One sub-scale, Efficacy in Student Engagement, includes items such as, “How much can you do to help your students value learning?” The Efficacy in Instructional Strategies sub-scale incorporates items including, “How well can you respond to difficult questions from your students?” The third factor, Efficacy in Classroom Management, utilizes items such as, “How well can you establish a classroom management system with each group of students?”

The mean score for the TSES is 7.1. Higher scores on the TSES and its subscales indicate a greater likelihood for perceived control during the completion of teaching-related tasks. Low scores reflect a poor sense of ability to effect student learning. Reliability estimates for the three sub-scales, Engagement (.87), Instruction (.91), Management (.90) and the total scale (.94) of the TSES are high. When the TSES was compared to other measures of teacher efficacy, positive correlations were found (Tschannen-Moran & Woolfolk Hoy, 2001). These findings suggest the TSES is a reliable and valid measure in assessing teacher efficacy.

General Self Efficacy Scale (GSES)

The GSES (see Appendix D) is a measure of self efficacy developed by Schwarzer and Jerusalem (1995). Specifically, the GSES measures an individual's personal action control or agency. In other words, this scale assesses the degree of perceived control over life situations. The GSES is designed for use with general populations but can be used as a

measure of specific samples as well. The GSES has been used as a measure of efficacy in over 1000 studies in various languages and countries (Schwarzer, 2009).

Ten items or statements are presented in this measure of perceived efficacy. A 4-point scale ranging from “1” (not at all true) to “4” (exactly true) is used when respondents report their level of agreement for each item. Statements include “I can always manage to solve difficult problems if I try hard enough” and “I am confident that I could deal efficiently with unexpected events.”

A study by Scholz, Gutierrez-Dona, and Schwarzer (2002) exploring perceived efficacy of individuals from 25 countries (N= 19,120) found adequate estimates of internal consistency for the GSES (.86). Cronbach's Alpha was .87 for the United States population (N= 1594). Additionally, the findings of this study suggested the GSES is unidimensional and can be considered valid and reliable across multiple cultures. In most samples, the mean score for the GSES has been around 2.9. Higher scores on the GSES indicate a greater sense of agency. This measure was utilized in this study to aid in capturing the construct of perceived self-efficacy.

Irrational Beliefs Inventory (IBI)

This inventory, developed by Koopmans, Sanderman, Timmerman, & Emmelkamp (1994), is a 50-item, self-report measure used to assess irrational beliefs (see Appendix E). An irrational belief is considered a strong, unrealistic cognition that leads to self-destructive emotions and behaviors (Dryden, 2009). The irrational beliefs measured on the IBI are

consistent with those described in REBT. A 5-point likert scale, ranging from “1” (strongly disagree) to “5” (strongly agree), is provided for respondents to demonstrate a level of agreement for each item. A sample item reads, “If I can't keep something from happening, I don't worry about it.” The IBI is scored by summing all item responses. Low scores reflect a tendency to think rationally, while high scores indicate a propensity to think irrationally.

The IBI, was designed in an attempt to focus solely on irrational cognition, while isolating the construct from emotions (Bridges & Sanderman, 2002). It was developed from items found on the Irrational Beliefs Test (IBT; Jones, 1968) and the Rational Behavior Inventory (Shorkey & Whiteman, 1977). A factor analysis identified five factors: worrying, rigidity, need for approval, problem avoidance, and emotional irresponsibility. The internal consistency of the sub-scales of the IBI, for American samples, ranges from .69 (emotional irresponsibility) to .79 (worrying). These alpha levels suggest the IBI and its sub-scales are reliable. Correlations among the sub-scales of the IBI suggest they are independent of one another, thus supporting the scales validity. This scale has been used with many sample populations and several countries, including the Netherlands, Australia, and the United States.

Teachers' Irrational Beliefs Scale (TIBS)

Bernard (1990) developed the Teacher Irrational Belief Scale (see Appendix F) for use in assessing the irrational beliefs of teachers. The TIBS is a 22-item, self-report measure exploring four core irrational beliefs. These irrational beliefs, consistent with the theory of

REBT, include: low frustration tolerance, awfulizing, demandingness, and global worth/rating. The TIBS evaluates these irrational beliefs across various teaching related areas. These areas are represented by four sub-scales: Self-Downing Attitudes, Low-Frustration Tolerance Attitudes, Attitudes to School Organization, and Authoritarian Attitudes Toward Students. A five-point scale is provided for teachers to demonstrate their level of agreement with items such as, “I think I am a failure when I haven't “got through” to a student or class.” The scale ranges from 1 (strongly disagree) to 5 (strongly agree). High scores on the TIBS suggest the respondent maintains irrational beliefs.

While four sub-scales are indicated on the TIBS, a parallel factor analysis revealed the items loading on three main factors: Demandingness, Self-Downing, and Low Frustration Tolerance (Bora, Bernard, Trip, Decsei-Radu, & Chereji, 2009). Adequate internal consistency for this scale has been found with studies conducted on Australian and Romanian populations. Cronbach's alphas for the English version of the TIBS range from .70 - .85 across the subscales and the total scale score. Test-retest reliability for the TIBS is also adequate (.80). The TIBS has been found to have low convergent validity in relation to other scales assessing irrational beliefs, specifically the Attitudes and Beliefs Scale 2 (ABS2; DiGiuseppe, Leaf, Exner, & Robin, 1988).

Classroom Scenarios Questionnaire (CSQ)

The Classroom Scenarios Questionnaire (CSQ) developed by Warren (2010c) is an on-line application designed to explore teachers' perceived reactions to classroom situations.

Teachers accessed the CSQ by typing http://jeffreywarren.net/Classroom_Scenario_Questionnaire.html into a web browser. The CSQ homepage comprises instructions for completion and a link to begin the questionnaire. Upon clicking on the link, teachers are presented with a pictorial representation of a classroom situation. A brief synopsis of the situation accompanies the picture. Teachers are asked to imagine themselves in these situations and respond to the open-ended questions. An example of one scenario includes a picture of a student disturbing others during a class activity. A brief summary of this situation is included below the picture. Respondents are asked questions such as, “What is your initial thought about what the student is doing?” and “How do you feel about the student interrupting classroom instruction.” Questions such as these are designed to explore teachers' beliefs and emotions related to possible classroom situations. Other questions including, “Would you perceive your ability to manage classroom behavior differently after this situation occurs?” This type of question is formatted to address efficacy beliefs. This qualitative measure was used post- intervention to gather rich details of respondents perceived thoughts and feelings of classroom experiences teachers may encounter.

Post-Intervention Questionnaire (PIQ; Appendix G)

This questionnaire developed by Warren (unpublished) was employed to provide teachers with the opportunity to evaluate the program. The PIQ explores participants' thoughts of the training experience. The questions are presented in an open-ended format to encourage rich expression. Questions posed include, “What would you consider to be the

most beneficial piece of this in-service?” and “Would you recommend this in-service to other teachers? Why?” This questionnaire was completed by participants at the conclusion of the professional development experience. However, the data collected was not analyzed or presented in this study.

Demographic Questionnaire (DQ; Appendix H)

A brief questionnaire was used to gather demographic information of the participants at the onset of the study. Respondents were asked to indicate earned degree, certifications, grade level taught, and years of experience.

Design

This study comprised a between groups, modified pre-test, posttest quasi-experimental design. All but one measure was used once during this study. The pre-tests were administered for multiple reasons; to assess the similarities of the groups under investigation and to explore the relationships between several of the constructs. The components of the experiment include: pre-test data collection, the PEST-T interventions, posttest data collection, and program evaluation (see Figure 1).

Prior to the study, participating elementary schools were assigned to one of three groups: Treatment 1, Treatment 2, or Control. The investigator assigned these conditions to the participating schools based on the location of the school and principal requests. Teachers voluntarily participated in the condition assigned to their school. Treatment 1 consisted of face-to-face PEST-T training. Participants receiving Treatment 2 received on-line PEST-T training. The control group received the on-line treatment at the conclusion of the study.

The study was conducted by a doctoral candidate in the Counselor Education Program at North Carolina State University. This student was considered the primary investigator. The Director of Student Services for Franklin County Schools offered aid as needed during the study. School counselor's of the participating schools were also asked to aid or support the study.

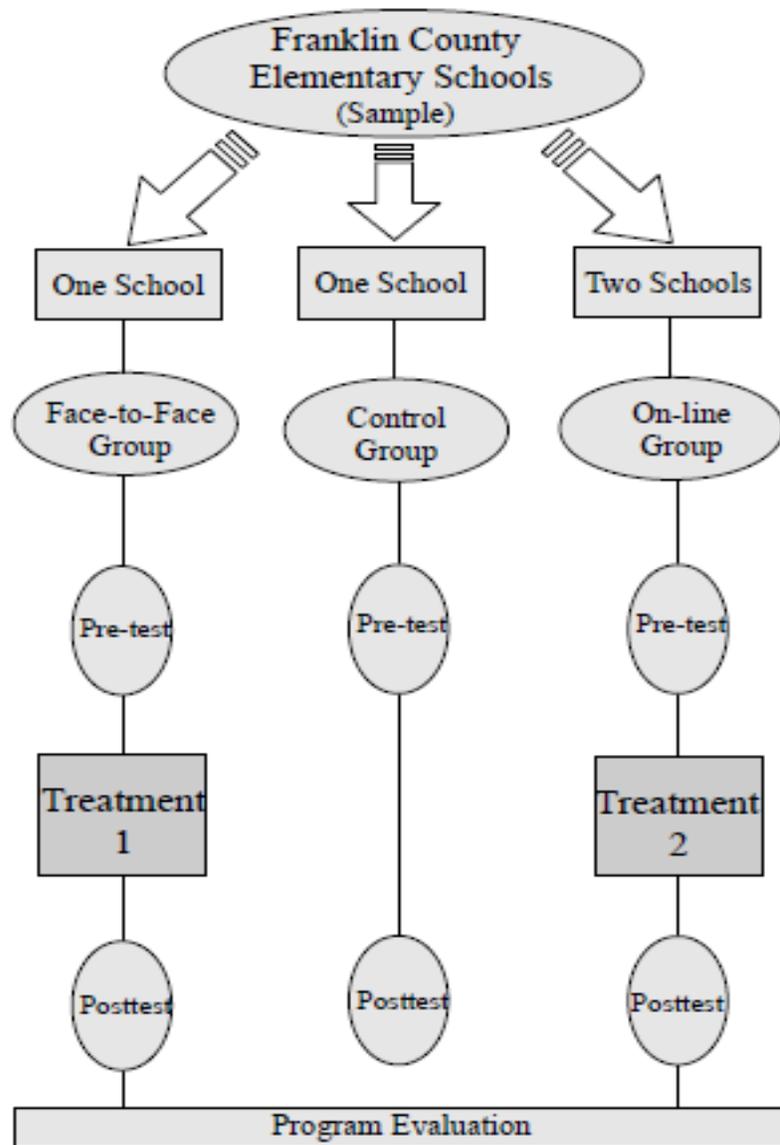


Figure 1. Diagram of Quasi-Experimental Design. Pretests and Posttests comprise different measures. The DASS-21 was the only measure used as pretest and posttest observations. Results of the Program Evaluation are not presented in this study.

Procedure

Preliminary Provisions

The principle investigator initially contacted each administrator of the participating elementary schools. The primary investigator requested participation during the weekly teacher meetings at each school to present the training opportunity. The principle investigator enlisted school counselors from the participating schools to help in the recruitment of participants. One school participated in the face-to face intervention and two schools participated in the on-line intervention. The remaining school was designated as the control group. Cross-contamination was avoided as a result of assigning schools to specific conditions instead of randomly assigning teachers from the four schools to a treatment or control group.

The primary investigator consulted with the administrators of the schools receiving the face-to-face intervention to address logistical concerns (ie. location, times, etc). Additionally, in preparation for the on-line intervention, the principal investigator assigned an arbitrary user name for each participant to use when posting to the discussion board. Participants were not required to disclose personal information via the discussion.

Program Descriptions

Face-to-face intervention. This intervention comprised seven, 75-minute sessions across an eight week period. The sessions for this treatment group were held after school in the media center on a pre-determined day and time. The in-services for the face-to-face

participants detailed the theories of Social Cognitive Theory and Rational Emotive Behavior Therapy (see Appendix I).

Components of SCT including observational learning, efficacy, and reciprocal determinism were presented during the first session. Irrational beliefs, emotions, self-defeating behaviors and other principles of REBT were explored throughout the remaining sessions. Numerous strategies and techniques for increasing rational thought and efficacy beliefs were provided and demonstrated throughout the training. Many examples and analogies were used to explain the information presented during the sessions. The intervention presentations focused on teaching and classroom situations to ensure relevancy for the participants. Interactive discussions, songs, humor, and participation in demonstrations were encouraged throughout the training. Furthermore, all materials used in the face-to-face intervention was developed by the principle investigator with the assistance of various books, manuscripts, and websites.

On-line intervention. This intervention consisted of five sessions, across an eight-week period (see Appendix J). All communication for the five sessions took place through an on-line discussion board. The moderator of the discussion board, and principle investigator of the study, corresponded with participants intermittently via email when providing training reminders and session deadlines.

Throughout this training, participants were presented with select articles on SCT and REBT. During each session, participants were asked to read an article provided via the discussion

board. Participants were responsible for commenting on the readings, and responding to other on-line participants' comments through the on-line format. Participants were required to dedicate approximately 1.25 hours a week engaged in the on-line discussion forum and applying SCT and REBT in daily living. Participants could access and complete sessions on the discussion board at their convenience due to the asynchronous format of the training. The principle investigator also participated in the on-line discussion forum by responding to participants' thoughts and comments.

Data Collection

Pre-intervention. Once the deadline for commitment was reached, participating teachers were gathered at their respective schools for meetings. The following materials and measures were distributed: the informed consent form, demographic form, the Depression Anxiety Stress Scale-21 (DASS-21), the General Self Efficacy Scale (GSES), and the Irrational Beliefs Inventory (IBI). All items were completed in large group settings and collected from the participants during these meetings.

Posttest. The week after the conclusion of the interventions, posttest measures were administered and collected for all conditions. All participants of the study were asked to complete the Depression Anxiety Stress Scale-21 (DASS-21), the Teacher Irrational Belief Scale (TIBS), Teachers' Sense of Efficacy Scale (TSES), and the Classroom Scenario Questionnaire (CSQ) as a means of collecting posttest data. The Post Intervention

Questionnaire (PIQ) was administered as a program evaluation, however the data collected was not analyzed or presented in this report.

Ordering effects were controlled for by placing the measures in random order for reporting. These measures were completed in the same locations in large group settings. A list of resources including self-help materials were provided for those participants with interest in learning further about SCT and REBT.

Data Analysis

The following hypotheses were tested by measuring the effects of the interventions. To achieve this goal, between group and within group differences were measured when necessary. Correlation analyses of scores from measures of differing constructs (irrational beliefs, efficacy) were conducted. Consensual Qualitative Research (CQR) was implemented when analyzing the qualitative data. Descriptive statistics were also analyzed.

Preliminary Analysis. Pre-test data was collected through several measures (DASS-21, GSES, and IBI) in order to assess the degree of homogeneity across groups. The scores from these measures served as dependent variables. The groups were compared using analysis of variance (ANOVA).

Hypothesis one. It was hypothesized that participants exposed to PEST-T trainings would report lower levels of irrational beliefs as compared to the control group.

This hypothesis was tested by comparing the experimental groups with the control group. In each comparison, the independent variable was the PEST-T training. The

dependent variable was the scores from the Teacher Irrational Belief Scale. To determine if group differences were statistically significant, the scores from each treatment and the control group were analyzed with one-way analyses of variance (ANOVA). Tukey HSD comparisons were also employed when a significant effects was found for the overall ANOVA. This post hoc analysis allowed each conditions to be compared with other conditions.

Hypothesis two. Participants exposed to the PEST-T trainings were expected to report higher levels of efficacy than the control group.

When testing this hypothesis, treatment groups were compared to the control group. The PEST-T trainings served as the independent variable, while the scores from the Teacher Sense of Efficacy Scale served as the dependent variable. To determine if the differences between groups were statistically significant, one-way analyses of variance (ANOVAs) were conducted. Post hoc tests were conducted when necessary.

Hypothesis three. It was hypothesized that the PEST-T trainings would reduce levels of depression, anxiety, and stress among participants.

To test this hypothesis, the independent variables were the PEST-T trainings. The scores from the Depression Anxiety Stress Scale (DASS 21) were the dependent variables. A one-way analysis of variance (ANOVA) was used to test the with-in group effects of the interventions.

Hypothesis four. The principle investigator hypothesized that participants in the face-to-face intervention were expected to report levels of irrational thought similar to participants completing the on-line intervention.

In this analysis, the independent variables were the face-to-face treatment and on-line treatment. The dependent variables were the scores from the Teacher Irrational Belief Scale. A one-way analysis of variance (ANOVA) was used to determine group differences among the treatments.

Hypothesis five. It was hypothesized a relationship would be found between efficacy beliefs and irrational beliefs.

To test this hypothesis, all study participants' pre-test scores from the General Self Efficacy Scale (GSES) and the Irrational Beliefs Inventory (IBI) were analyzed using the Pearson product-moment correlation coefficient (PMCC).

Hypothesis six. It was hypothesized that the participants of the PEST-T trainings would respond to the situations on the Classroom Scenarios Questionnaire(CSQ) in more effective and helpful ways.

It was not the intent of the investigator to test this hypothesis, but to be aware of the biases maintained within this hypothesis during the data analysis. The goal, therefore, was to focus on how the participants from each condition would interpret the scenarios presented to them. Consensual Qualitative Research (CQR; Hill, Thompson, & Nutt Williams, 1997) was utilized in the analysis of the data collected from the CSQ.

A team comprising two current school counselors and one former school counselor was formed to analyze the data. The former school counselor was the investigator of this study and also served as the presenter for the two interventions. The team was trained as suggested by Hill, Thompson, Hess, Knox, Nutt Williams, and Ladany (2005). The investigator provided the team with samples of coded data as well as an overview of the data analysis process. Additionally, the team members were asked to study Hill, et al. (2005) and refer to Hill, Thompson, & Nutt-Williams (1997) for additional reference if needed. The team members developed domains based on a review of the literature and the content of the questionnaire. Three anonymous sets of data were provided to the team members; one set from each condition. The team members individually reviewed each data set and highlighted comments and words referred to as core ideas. These core ideas aligned with the predetermined domains developed by the team. The team members were aware that domains were fluid and the data may warrant the creation of additional domains. Once the initial analysis was complete, the data were compiled and organized by each condition. For each condition, the core ideas were assessed and agreed upon by the team members through a consensual process. The core ideas were further analyzed and categories were developed across conditions. The development of the categories allowed the team to interpret the data and elaborate on its meaning (Hill, et. al, 2005). An auditor provided checks and critiques of the data analysis process during the development of domains and core ideas, as well as during cross-analysis of the data.

Attempts to reduce researcher bias and enhance reflexivity were made through the implementation of the CQR process. Trustworthiness and credibility was established through the consensual nature of the data analysis.

Summary

A detailed explanation of the methodology utilized in this study is presented in this chapter. Participants, instrumentation, research design, and procedures are all thoroughly explained. The measures are provided in the appendices when applicable. The research design delineates the organization of the observations and conditions. The procedure includes pre-intervention duties, dissemination of instruments, program descriptions, data collection, and data analysis. Additionally, session outlines are included in the appendices to provide further explanation of the face-to-face and on-line trainings.

CHAPTER IV

Results

This chapter provides the quantitative and qualitative results of the analyses conducted during this research. Several measures were used to collect data from the participants at the pre-intervention and posttest phases. Measures of irrational beliefs include the Irrational Beliefs Inventory (IBI) and the Teachers' Irrational Belief Scale (TIBS). Scales used to measure efficacy include the General Self Efficacy Scale (GSES) and the Teachers' Sense of Efficacy Scale (TSES). The Depression Anxiety Stress Scale-21 (DASS-21) measured levels of depression, anxiety, and stress among participants. Participants reported their perceived responses to common classroom situations by completing the Classroom Scenario Questionnaire (CSQ). These measures were implemented to assess the effects of the treatment and to explore the relationships between the variables under investigation.

Demographic data of the participants are outlined first. Then the findings of the preliminary analysis are presented. Chapter Four concludes with a presentation of the findings of this study. The findings are arranged by hypothesis. Quantitative data are analyzed using analysis of variance (ANOVA). Tukey HSD comparisons are made post hoc when applicable. Pearson Product Moment Correlation (PPMC) is used when exploring the relationships between the constructs under investigation. StatCrunch 5.0 (Integrated Analytics LLC, 2007) was employed for ANOVAs and Pearson Product Moment Correlations. Tukey HSD comparisons were calculated by hand. Descriptive data including

means and standard deviation are also presented. Qualitative data collected from the participants are analyzed through Consensual Qualitative Research (CQR).

Description of Sample

Participants were teachers from four elementary schools in one rural school system in the south. The control group and the face-to-face group each comprised teachers from one of two different elementary schools. Teachers from the remaining two elementary schools participated in the on-line treatment group. All participants completed a demographic questionnaire during the collection of pre-intervention data. The majority of the grade level teachers in this investigation currently teach Second grade (19%). Participants currently teaching Kindergarten, First, Third, and Fourth grades comprised 12% for each grade level. Five percent of the sample included current Fifth grade teachers. Twenty-nine percent of the teachers participating in this study identified themselves as “Other” indicating they were currently Music, Physical Education, Drama, Art, or Media Teachers. The participants' years of teaching experience ranged from zero to twenty or more years. Teachers' experience predominately ranged from six to ten years (36%), followed by zero to two years (14%), three to five years (14%), eleven to fifteen years (14%), more than twenty years (14%), and sixteen to twenty years (7%). The majority of the teachers held bachelor degrees (79%) as compared to master degrees (21%). Only 12% of the participants were National Board Certified Teachers (NBCT). Table 1 provides further demographic information and a statistical breakdown of the data by condition.

Table 1

Descriptive Statistics of Participants

| | Face-to-Face (n = 9) | On-Line (n = 9) | Control (n = 24) | Total (n = 42) |
|----------------------------|-------------------------|--------------------|---------------------|-------------------|
| Variables | % | % | % | % |
| Years of Experience | | | | |
| 0-2 | 11 % | 11 % | 17 % | 14 % |
| 3-5 | --- | 44 % | 8 % | 14 % |
| 6-10 | 44 % | 33 % | 29 % | 36 % |
| 11-15 | --- | --- | 25 % | 14 % |
| 16-20 | --- | 11 % | 8 % | 7 % |
| 20 + | 33 % | --- | 13 % | 14 % |
| Currently Teaching | | | | |
| Kindergarten | 22 % | --- | 13 % | 12 % |
| First | 22 % | 11 % | 8 % | 12 % |
| Second | --- | 22 % | 25 % | 19 % |
| Third | 11 % | --- | 17 % | 12 % |
| Fourth | 22 % | 11 % | 8 % | 12 % |
| Fifth | --- | 11 % | 4 % | 5 % |
| Other | 22 % | 44 % | 25 % | 29 % |

Table 1 continued

| | Face-to-Face (n = 9) | On-Line (n = 9) | Control (n = 24) | Total (n = 42) |
|-----------------------|-------------------------|--------------------|---------------------|-------------------|
| Variables | % | % | % | % |
| Education | | | | |
| Bachelor | 67 % | 78 % | 83 % | 79 % |
| Mastery | 33 % | 22 % | 17 % | 21 % |
| Certifications | | | | |
| National Board | 11 % | --- | 17 % | 12 % |
| Other | 22 % | 33 % | 25 % | 26 % |
| None | 67 % | 67 % | 58 % | 62 % |
| Lateral Entry | | | | |
| Yes | 11 % | 33 % | 4 % | 12 % |
| No | 89 % | 67 % | 96 % | 88 % |

Note: Other (Currently Teaching) includes Art, Curriculum Resource, Drama, Exceptional Children's Program, Music, or Physical Education. National Board = National Board Certified Teacher. Other (Certifications) include Academically and Intellectually Gifted (AIG), Art, English for Speakers of Other Languages (ESOL), Exceptional Children's Program, and Music. Lateral Entry = Pathway that allows qualified professionals outside of the educational system to enter the teaching profession (Lee County Schools, 2007).

Preliminary Analysis

Pre-intervention measures were administered to 42 participants. First, analyses were conducted on the items from the Irrational Beliefs Inventory (IBI) in order to assess whether the three groups were different in terms of irrational beliefs at the outset of the investigation. An ANOVA conducted on the means of the IBI indicated no significant difference between the control, face-to-face, and on-line groups, $F(2, 39) = .37, p > .05$. Next, an ANOVA was conducted on the responses from the DASS-21 to identify if pre-existing group differences were present in terms of depression, anxiety, or stress. The analysis suggested no significant difference between the means of the three groups, $F(2, 39) = 2.98, p > .05$. Finally, items from the GSES were analyzed to assess any pre-existing group differences in terms of efficacy. An ANOVA indicated no significant difference between the three groups, $F(2, 39) = .48, p > .05$. Means and Standard deviations for the Control, Face-to-Face, and On-line groups are presented in Table 2.

Table 2

Means and Standard Deviations of Pre-Intervention Measures

| Measure | Control | | Face-to-Face | | On-line | |
|---------|----------|-------|--------------|-------|---------|-------|
| | (n = 24) | | (n = 9) | | (n = 9) | |
| | M | SD | M | SD | M | SD |
| IBI | 144.25 | 15.55 | 141.33 | 12.07 | 147.56 | 17.32 |
| GSES | 30.38 | 4.59 | 31.56 | 2.13 | 31.89 | 5.60 |
| DASS-21 | 20.46 | 21.88 | 19.33 | 20.40 | 43.33 | 36.33 |

Note. IBI = Irrational Beliefs Inventory (Koopmans, Sanderman, Timmerman, & Emmelkamp (1994). GSES = General Sense of Efficacy Scale (Schwarzer & Jerusalem, 1993). DASS-21 = Depression Anxiety Stress Scale-21 (Lovibond & Lovibond, 1995).

Intervention Effects

Hypothesis One

It was hypothesized that participants exposed to PEST-T trainings would report lower levels of irrational beliefs as compared to the control group. The investigator tested this hypothesis by conducting a one-way ANOVA on the scores of the TIBS across the three groups. A Tukey HSD was employed to explore the difference between specific group means of the dependent variable. The effect of the treatments on the participants' irrational thoughts are presented in Table 3.

An ANOVA of the groups revealed statistical significance for teachers' irrational beliefs, $F(2, 33) = 8.80$, $p < .001$, which accounted for approximately 35% of the variance between the three groups. Post hoc analyses using Tukey HSD criterion for significance indicated the average level of irrational beliefs was significantly lower in the face-to-face treatment ($M = 49.33$, $SD = 15.57$), when compared to the control group ($M = 65.95$, $SD = 9.66$). Contrary to the hypothesis, the effect of the on-line treatment on teachers' irrational beliefs ($M = 74.2$, $SD = 13.41$) was not statistically different from the control group.

Further analyses on the items from the subscales of the TIBS provided additional insight into the effects of the treatments on specific irrational beliefs. An ANOVA of the three groups indicated statistical significance for self-downing attitudes (SDA), $F(2, 35) = 5.97$, $p = .006$. Post hoc comparisons using a Tukey HSD analysis indicated the mean for the face-to-face group ($M = 16.89$, $SD = 4.57$) statistically differed from the control group ($M =$

22.95, SD = 4.49). However, there was no statistical difference between the means of the on-line treatment (M = 24.6, SD = 6.88) and the control.

An omnibus ANOVA indicated means for low frustration tolerance attitudes (LFTA) were not significantly different across groups, although a slight trend toward significance was present, $F(2, 33) = 3.13, p = .057$. An ANOVA indicated statistical significance across groups for attitudes of school organization (ASO), $F(2, 33) = 4.78, p = .015$. However, criterion for significance in a Tukey HSD analysis was not met when comparing the mean of the control group (M = 16.95, SD = 2.36) with the mean of either treatment, face-to-face (M = 13.89, SD = 5.95) or on-line (M = 20.0, SD = 2.74). Group means for authoritarian attitudes towards students (AATS) were also found to be statistically significant when an ANOVA was conducted, $F(2, 33) = 6.35, p = .004$. Post hoc comparisons using the Tukey HSD analysis indicated the mean scores of the face-to-face treatment (M = 10.78, SD = 3.67) was significantly different than the control group (M = 15.43, SD = 4.07). However, the effect of the on-line treatment on AATS (M = 17.4, SD = 2.61) was not statistically different than the control group.

Post hoc comparisons of the means of the treatments and the control group indicated the on-line treatment was not effective in decreasing irrational beliefs. In fact, irrational beliefs for the on-line treatment group appeared to increase. Thus, the hypothesis that participants exposed to PEST-T trainings would report lower levels of irrational beliefs was

partially supported. While the face-to-face treatment group supported the hypothesis, the on-line group failed to be effective.

Table 3
Means, Standard Deviations, and Group Comparisons on Measures of Teachers' Specific and General Irrational Beliefs at Posttest

| | Control (n = 21) | Face-to-Face (n = 9) | On-Line (n = 5) | | | | |
|------|---------------------------|----------------------------|--------------------|------|------|----|-------|
| DV | M (SD) | M (SD) | M (SD) | F | d | % | p |
| SDA | 22.95 ^a (4.49) | 16.89 ^a (4.57) | 24.6 (6.88) | 5.97 | 1.58 | 22 | .006 |
| LFTA | 10.62 (3.79) | 7.78 (3.19) | 12.2 (2.28) | 3.13 | 1.27 | 16 | .057 |
| ASO | 16.95 (2.36) | 13.89 (5.95) | 20.0 (2.74) | 4.78 | 1.68 | 22 | .015 |
| AATS | 15.43 ^b (4.07) | 10.78 ^b (3.67) | 17.4 (2.61) | 6.35 | 1.73 | 28 | .004 |
| TIB | 65.95 ^c (9.66) | 49.33 ^c (15.57) | 74.2 (13.41) | 8.80 | 2.09 | 35 | <.001 |

Note. DV = dependent variable. SDA = Self Downing Attitudes. LFTA = Low Frustration Tolerance Attitudes. ASO = Attitudes to School Organization. AATS = Authoritarian Attitudes Towards Students. TIB = Teacher Irrational Beliefs. *d* = effect size calculated using Cohen's *d*. % = percentage of variance explained, calculated from eta squared. Degrees of Freedom (*df*) = 2 for each ANOVA. Significance set at $p < .05$. ^a Tukey HSD = 5.86, $p < .05$. ^b Tukey HSD = 4.59, $p < .05$. ^c Tukey HSD = 14.31, $p < .05$.

Hypothesis Two

It was also hypothesized that participants exposed to the PEST-T trainings would report higher levels of efficacy than the control group. A one-way ANOVA was conducted on the items from the TSES to assess the differences in efficacy among the three groups at $p < .05$. The results of this analysis indicated no statistical significance across groups in terms of teacher sense of efficacy (TSE), $F(2,33) = 1.56, p = .225$. In fact, compared to the control group ($M = 7.4, SD = .70$), the efficacy measures for the face-to-face treatment ($M = 7.34, SD = .64$) and on-line treatment ($M = 6.80, SD = .69$) yielded slightly lower averages (see Table 4).

Additional analyses of the items from the subscales of the TSES efficacy were conducted to explore specific effects of the PEST-T trainings on the treatment groups. The investigator conducted ANOVAs measuring the group differences in terms of efficacy in student engagement (ESE), efficacy in instructional strategies (EIS), and efficacy in classroom management (ECM). Group differences on EIS did not reach significance, $F(2, 33) = .29, p = .752$. Additionally, differences across groups did not significantly differ in terms of ECM, $F(2, 33) = .38, p = .685$. A statistically significant difference was found on ESE when the three groups were compared, $F(2, 33) = 4.52, p = .018$, accounting for 22% of the variance. A post hoc comparison indicated the mean of the face-to-face treatment ($M = 7.03, SD = .74$) was not significant in terms of ESE when compared to the control group ($M = 7.09, SD = .77$). However, the mean of the on-line group ($M = 5.94, SD = .87$) was

significantly less than the mean of the control group. The difference between the on-line group and control group means indicates the treatment had an adverse effect on the participants' ESE.

The hypothesis that participants exposed to the PEST-T trainings would report higher levels of efficacy than the control group was not supported. Contradictory to the hypothesis, the on-line group participants reported lower levels of TSE than the control group. Additionally, the face-to-face group reported TSE comparable to the control group.

Table 4

Means, Standard Deviations, and Group Comparisons on Measure of Specific and General Teacher Efficacy at Posttest

| DV | Control | Face-to-Face | On-Line | F | d | % | p |
|-----|-------------------------|--------------|-------------------------|------|------|----|------|
| | (n = 21) | (n = 9) | (n = 5) | | | | |
| | M (SD) | M (SD) | M (SD) | | | | |
| ESE | 7.09 ^a (.77) | 7.03 (.74) | 5.94 ^a (.87) | 4.52 | 1.46 | 22 | .019 |
| EIS | 7.56 (.61) | 7.57 (.55) | 7.32 (1.03) | .29 | .38 | 1 | .752 |
| ECM | 7.39 (.98) | 7.42 (.77) | 6.98 (1.43) | .38 | .44 | 2 | .685 |
| TSE | 7.4 (.70) | 7.34 (.64) | 6.80 (.69) | 1.56 | .87 | 8 | .225 |

Note. DV = dependent variable. ESE = Efficacy in Student Engagement. EIS = Efficacy in Instructional Strategies. ECM = Efficacy in Classroom Management. TSE = Teacher Sense of Efficacy. *d* = effect size calculated using Cohen's *d*. % = percentage of variance explained, calculated from eta squared. Degrees of Freedom (*df*) = 2 for each ANOVA. Significance set at $p < .05$. ^a Tukey HSD = .94, $p < .05$.

Hypothesis Three

The third hypothesis focused on the levels of depression (D), anxiety (A), and stress (S) experienced by teachers. It was hypothesized that the PEST-T trainings would lead

teachers to report decreases in depression, anxiety, and stress. One-way ANOVAs were employed using items from the DASS-21 to compare the with-in group effects of the face-to-face and on-line treatments. Table 5 presents the results.

A comparison of the face-to-face group at pre-treatment and post-treatment observations indicated no significant difference in terms of depression, $F(1, 16) = .007$, $p = .933$. Also, participants reported no significant difference in level of anxiety $F(1, 16) = .032$, $p = .859$. A comparison of means for items related to stress indicated no statistical significance across observations for face-to-face participants, $F(1, 16) = .014$, $p = .906$.

The on-line group participants' responses to items on the DASS-21 were also compared at pre-treatment and post-treatment observations. In terms of depression, the on-line group reported no significant difference across observations, $F(1, 12) = .041$, $p = .844$. Also, a comparison of observations for items related to anxiety indicated no statistical difference $F(1, 12) = .045$, $p = .836$. The pre-treatment and post-treatment responses to stress-related items were also analyzed using an ANOVA. This comparison revealed no significant difference in level of stress, $F(1, 12) = .044$, $p = .838$.

The with-in group analyses used to test the effects of the treatments indicated the face-to-face intervention and the on-line intervention were not effective in decreasing depression, anxiety, or stress. The mean for each dependent variable was not moving in the hypothesized direction for the face-to-face group participants. The means only slightly decreased for the on-line group in terms of the depression, anxiety, and stress. Consequently,

the hypothesis that the PEST-T trainings will reduce levels of depression, anxiety, and stress among participants was not supported.

Table 5

Means, Standard Deviations, and With-in Group Comparisons on Measures of Depression Anxiety, and Stress

| DV | <u>Face-to-Face</u> | | F | d | % | p |
|------------|---------------------------|----------------------------|------|--------|---|------|
| | Pre- (n = 9) M (SD) | Post- (n = 9) M (SD) | | | | |
| Depression | 2.00 (2.74) | 2.11 (2.76) | .007 | - .040 | 0 | .933 |
| Anxiety | 3.11 (3.33) | 3.44 (4.48) | .032 | - .084 | 0 | .859 |
| Stress | 4.56 (4.72) | 4.78 (2.91) | .014 | - .056 | 0 | .906 |
| DV | <u>On-line</u> | | F | d | % | p |
| | Pre- (n = 9) M (SD) | Post- (n = 5) M (SD) | | | | |
| Depression | 7.00 (7.38) | 6.20 (6.53) | .041 | .115 | 0 | .844 |
| Anxiety | 4.56 (6.09) | 3.80 (6.94) | .045 | .116 | 0 | .836 |
| Stress | 9.00 (7.14) | 8.20 (6.26) | .044 | .119 | 0 | .838 |

Table 5 (continued).

Note. DV = Dependent Variable. d = effect size calculated using Cohen's d . % = percentage of variance explained, calculated from eta squared. $P < .05$.

Hypothesis Four

The investigator also hypothesized that the face-to-face group participants would report levels of irrational beliefs similar to the on-line group participants at the conclusion of the treatments. Scale scores of the TIBS from both treatment groups were compared using one-way ANOVAs. The subscales of the TIBS were also analyzed between groups.

Initially, total scores from the TIBS were used to compare the responses from the participants in each condition. The mean of the face-to-face group ($M = 49.33$, $SD = 15.57$) was found to be statistically different than the mean of the on-line group ($M = 74.2$, $SD = 13.41$) in terms of terms of teachers' irrational beliefs, $F(2, 11) = 8.97$, $p = .011$. Additionally, teachers' irrational beliefs accounted for approximately 43% of the variance (see Table 6).

Items from the TIBS were used to further analyze specific type of irrational beliefs including, self-downing attitudes, low frustration tolerance attitudes, attitudes of school organization, and authoritarian attitudes toward students. ANOVAs were employed to assist the investigator in comparing the treatment groups in terms of each type of irrational belief. In terms of self-downing attitudes, a significant difference was found between the face-to-face group and the on-line group, $F(2, 11) = 6.44$, $p = .026$. A comparison of treatments on

items related to low frustration tolerance attitudes also indicated statistically significant group means $F(2, 11) = 7.37, p = .019$. Treatment group means were also analyzed in terms of attitudes of school organization. Statistical difference was not detected when treatment groups were compared, however ASO reflected a trend towards significance $F(2, 11) = 4.60, p = .053$. Additionally, an ANOVA conducted between treatments on the mean scores of AATS indicated a statistically significant difference $F(2, 11) = 12.55, p = .004$. Furthermore, AATS accounted for approximately 51 % of the variance explained.

Contrary to the hypothesis, the on-line treatment group means were elevated for each dependent variable when compared to the means of the face-to-face treatment. Statistically significant group differences existed across all dependent variables at $p < .05$, except for attitudes of school organization. This variable however, was trending towards statistical significance. Thus, the hypothesis that participants exposed to the face-to-face treatment would report levels of irrational beliefs similar to the on-line group participants was not supported.

Table 6

Means, Standard Deviations, and Group Comparisons on Measures of Specific and General Irrational Beliefs at Posttest of Face-to-Face and On-line Groups

| DV | Face-to-Face | On-line | F | d | % | p |
|------|---------------|--------------|-------|-------|----|------|
| | (n = 9) | (n = 5) | | | | |
| | M (SD) | M (SD) | | | | |
| SDA | 16.89 (4.57) | 24.6 (6.88) | 6.44 | -1.32 | 34 | .026 |
| LFTA | 7.78 (3.19) | 12.2 (2.28) | 7.37 | -1.59 | 38 | .019 |
| ASO | 13.89 (5.95) | 20.0 (2.74) | 4.60 | -1.32 | 28 | .053 |
| AATS | 10.78 (3.67) | 17.4 (2.61) | 12.55 | -2.08 | 51 | .004 |
| TIB | 49.33 (15.57) | 74.2 (13.41) | 8.97 | -1.71 | 43 | .011 |

Note. d = effect size calculated using Cohen's d (Becker, 1999). % = percentage of variance explained, calculated from eta squared. Degrees of Freedom (df) = 1. Significance set at p<.05.

Hypothesis Five

The fifth hypothesis focused on the relationship between efficacy beliefs and irrational beliefs. The investigator hypothesized that a relationship exists between these constructs. Items from the Irrational Beliefs Inventory and the General Sense of Efficacy Scale, administered during pre-intervention data collection, were used to analyze the relationship between these variables. Sub-types of irrational beliefs such as worry, rigidity,

and problem avoidance, measured with the IBI, were also correlated with efficacy beliefs. Additionally, while not included as a concern in the original hypothesis, reports of depression, anxiety, and stress from the DASS-21 were included in the correlations. Pearson product-moment correlation coefficients indicated numerous variables maintained a relationship with one another (see Table 7).

Irrational beliefs displayed a moderate negative relationship with general self-efficacy ($r = -.47, p < .001$). Furthermore, several subscales for irrational beliefs yielded moderate negative relationships with general self-efficacy, though the strength ranged from $-.47$ (worry, $p < .001$) to $-.26$ (problem avoidance, $p < .048$). Little to no relationship was found between general self-efficacy and emotional irresponsibility ($r = -.09, p = .285$) or rigidity ($r = -.02, p = .45$).

Additional relationships were also explored between irrational beliefs and items from the DASS-21. Irrational beliefs displayed strong to moderate positive associations with stress ($r = .51, p < .001$), depression ($r = .43, p = .002$), and anxiety ($r = .41, p = .003$). Items related to worry from the IBI was found to have a strong relationship with depression ($r = .54$), anxiety ($r = .52$), and stress ($r = .62, p < .001$). Problem avoidance demonstrated relatively weak relationships with depression, anxiety, and stress, while rigidity, demand for approval, and emotional irresponsibility displayed little to no relationships among these variables.

Pearson product-moment correlation coefficients were also used to assess the strength of the relationships between general self-efficacy and depression, anxiety, and stress. A significant relationship was identified between self-efficacy and each construct measured on the DASS-21. Self-efficacy presented strong negative correlations ranging from $-.53$ (depression, $p < .001$) to $-.47$ (stress, $p < .001$).

The hypothesis that a relationship exists between irrational beliefs and efficacy was supported. Consistent with this hypothesis, efficacy displayed a negative association with irrational beliefs; specifically with worry, demand for approval, and problem avoidance. Irrational beliefs and efficacy were also found to be linked to depression, anxiety, and stress.

Table 7

Correlation of Dependent Measures Compiled Across Groups at Pre-Intervention

| Measure | W | R | PA | DA | EI | IB | GSE | D | A | S |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|
| 1. IBI-Worry | ---- | .15 | .52 | .17 | .10 | .86 | -.47 | .54 | .52 | .62 |
| 2. IBI-Rigidity | | ---- | -.01 | .10 | -.43 | .38 | -.02 | .01 | .03 | .13 |
| 3. IBI-Problem Avoidance | | | ---- | -.02 | .08 | .63 | -.26 | .26 | .29 | .38 |
| 4. IBI-Demand for Approval | | | | ---- | .17 | .46 | -.32 | .13 | .04 | .01 |
| 5. IBI-Emotional Irresponsibility | | | | | ---- | .19 | -.09 | -.02 | .01 | -.04 |
| 6. IBI-Total Irrational Beliefs | | | | | | ---- | -.47 | .43 | .41 | .51 |
| 7. GSES-General Self Efficacy | | | | | | | ---- | -.53 | -.48 | -.47 |
| 8. DASS-Depression | | | | | | | | ---- | .82 | .74 |
| 9. DASS-Anxiety | | | | | | | | | ---- | .80 |
| 10. DASS-Stress | | | | | | | | | | ---- |

Note. IBI = Irrational Belief Inventory. GSES = General Self-Efficacy Scale. DASS = Depression Anxiety Stress Scale-21. W = Worry. R = Rigidity. PA = Problem Avoidance. DA = Demand for Approval. EI = Emotional Irresponsibility. IB = Irrational Beliefs. GSE = General Sense of Efficacy. D = Depression. A = Anxiety. S = Stress.

Hypothesis Six

The investigator hypothesized that the participants of the PEST-T interventions would respond to the scenarios presented on the Classroom Scenario Questionnaire (CSQ; Warren, 2010c) in more effective and helpful ways than the control group participants. Consensual Qualitative Research (CQR) was employed to analyze the data collected. The original domains (*Feelings, Thoughts, Behaviors, Efficacy*) were developed based on a review of literature and the questions comprising the CSQ. Additionally, while the domains were malleable, they remained constant throughout the analysis process. The core ideas were compiled and a cross-analysis was conducted with-in each group for between group comparisons (see Table 8).

Domain 1: Feelings

Feelings wielded one category, *Negative*. Core ideas across the groups were consistent with this category. Participants from the control group reported they would feel “frustrated,” or “upset,” if faced with the classroom situations presented. Likewise, the face-to-face and on-line group participants stated they would feel largely “annoyed,” and “frustrated.”

Domain 2: Thoughts

Several categories (*Realistic, Assumptive, Demands*) emerged from the domain *Thoughts*. *Realistic* was identified as thoughts that could be proven and/or were preferential. *Realistic* included core ideas such as “I wish the student was following directions,” “the

student is not following directions,” and “it is disorganized and I don't like it.” These core ideas were consistent across all three groups. *Assumptive* was also prevalent in the responses from the participants of the three groups. *Assumptive* was defined as thoughts that could not be proven. Core ideas included statements such as, “he is angry at me because of an earlier reprimand,” and “they don't care.” The last category in this domain, *Demands*, maintained core ideas also found in all three groups. *Demands* were identified as thoughts that appeared to imply rigidity and stiffness. A participant from the control group remarked, “They should be able to follow directions,” while another participant stated, “the games need to be neat.” A face-to-face group participant stated, “I should not have to remind students,” while an on-line participant remarked, “they need to straighten it up.”

Domain 3: Behaviors

The domain, *Behaviors*, encompassed three categories, *Management*, *Communication*, and *Support*. *Management* was defined as behaviors the teacher engaged in in an attempt to maintain command of the classroom. Participants from all three groups most frequently reported *Management* strategies such as “calling parents,” “consequences,” and “offering rewards.” *Communication* was identified as “verbal” behaviors related to the act of talking to students. Core ideas found in *Communication* included, reminding the students, talking to them, and asking them questions. These core ideas were noted in the control, face-to-face, and on-line groups. The last category in this domain, *Support* was described as “hands on” behaviors specific to aiding or assisting students. Participants offered *Support* by

helping students practice, working together, and modeling appropriate behaviors. A face-to-face group participant suggested “putting picture clues on the student's desk,” while a control group participant simply stated, “I can make things fun.”

Domain 4: Efficacy

Efficacy, the last domain, comprised statements offered in response to specific questions regarding the participants' perceptions of their ability to effectively respond to a given situation. Three categories emerged from this domain; *Realistic*, *Assumptive*, and *Self-Blaming/Demanding*. Consistently, for each group, the participants frequently indicated their perceived level of efficacy toward a situation would not change based on the outcome of that situation.

Despite the participants confidence in their ability, two categories, *Realistic* and *Assumptive*, included core ideas found across all groups. The definitions of these two categories are consistent with the categories found in the *Thought* domain. Responses indicative of *Realistic* included, “kid need reminders,” “it takes patience,” and “every child is different.” *Assumptive* was represented by core ideas such as, “he did it out of spite,” “I see this everyday,” and “they just want attention.”

The third category, *Self-blaming/Demanding*, was defined as thoughts linked to efficacy beliefs that are rigid and imply negative outcomes are the teachers' fault. This category was derived from control group participants responses to the given situations. One control group member stated, “I have difficulty with defiance.” Another participant in this

group remarked, “I should be more firm.” Other comments included, “I should be more stern” and “I should have reinforced my rules and expectations.” Consequently, these remarks were made by a minority of participants indicating, their perceived level of efficacy *would change* depending on the outcome of the situation.

The qualitative analysis provided a rich, in depth investigation of thoughts, feelings, and behaviors of teachers faced with adverse situations. Similar categories were derived from the core ideas found across the control and treatment groups. The emergence of self-blaming/demanding from the control group was a slight variation not consistently found in the treatment groups. However, the participants' feelings, thoughts, and behaviors across all groups remained constant. As a result, the hypothesis that the PEST-T training participants will respond to scenarios on the CSQ (Warren, 2010c) in more effective and helpful ways was not supported.

Table 8

Qualitative Findings of Data Collected From Classroom Scenario Questionnaire Including Domains, Categories, and Core Ideas

| | | Control (n = 21) | Face-to-Face (n = 9) | On-line (n = 5) |
|----------|------------|---|--|--|
| Domain | Category | Core Ideas | Core Ideas | Core Ideas |
| Feelings | Negative | frustrated disappointed anger | frustrated disappointed annoyed | frustrated annoyed pressured |
| Thoughts | Assumptive | S is angry because of reprimand S are not thinking S know routine | S doesn't care S will blame others S didn't take me seriously I have not been clear | S cannot be trusted S must not understand |

Table 8 (continued)

| | | Control (n = 21) | Face-to-Face (n = 9) | On-line (n = 5) |
|----------|-----------|---|---|---|
| Domain | Category | Core Ideas | Core Ideas | Core Ideas |
| Thoughts | | | | |
| | Realistic | S is not following directions behavior is distracting it is disorganized, & I don't like it | S didn't follow directions S didn't follow procedures I would like S to follow directions | I would like S to pick up I wish S was doing as asked It's silly to get upset |
| | Demands | games need to be neat should be able to follow directions S need to practice procedures | S should not have to be reminded I need to be clear I need to do something different | S need to straighten up I need to get them up to speed |

Table 8 (continued)

| | | Control (n = 21) | Face-to-Face (n = 9) | On-line (n = 5) |
|-----------|---------------|---------------------|--|------------------------------|
| Domain | Category | Core Ideas | Core Ideas | Core Ideas |
| Behaviors | | | | |
| | Management | call parents | give a reward | give a warning |
| | | offer rewards | give more consequences | punish |
| | | loss of privileges | send note home | give a reward/incentive |
| | | pull card | move to yellow card | follow discipline procedures |
| | Communication | remind the S | remind the S | remind the S |
| | | ask the S | discuss courtesy/responsibility | explain to the S |
| | | talk to the S | discuss strategies with other teachers | tell the S |

Table 8 (continued)

| | | Control (n = 21) | Face-to-Face (n = 9) | On-line (n = 5) |
|-----------|------------|------------------------------|------------------------------------|-----------------------------|
| Domain | Category | Core Ideas | Core Ideas | Core Ideas |
| Behaviors | Support | S will work with a buddy | place picture clues on desk | assess S differently |
| | | I will research strategies | do fun activities | work together |
| | | I will make things fun | have S practice/demonstrate | practice |
| Efficacy | Assumptive | S was upset about what I did | S wants attention | I see this everyday |
| | | S will always have outbursts | S did it out of spite | It is a constant battle |
| | | | S is trying to be funny | |
| | Realistic | it takes patience | there is not a quick fix | they are children |
| | | every group is different | every child is different | they are all different |
| | | I can find something to help | I will use the resources available | relationships are a process |

Table 8 (continued)

| | | Control (n = 21) | Face-to-Face (n = 9) | On-line (n = 5) |
|---------------|------------------------|-------------------------------------|-------------------------|--------------------------------|
| <u>Domain</u> | <u>Category</u> | <u>Core Ideas</u> | <u>Core Ideas</u> | <u>Core Ideas</u> |
| Efficacy | Self-blaming/Demanding | I should be more firm | | I blame myself for S behaviors |
| | | I have difficulty with defiance | | |
| | | I question how well I est. routines | | |

Note: S = Student(s). Core ideas from Efficacy domain were embedded within responses pertaining to efficacy from the questionnaire.

Summary

The findings and results for each hypothesis were detailed in this chapter. The face-to-face PEST-T training produced significant differences in terms of irrational beliefs including self-downing attitudes and authoritarian attitudes towards students. The on-line treatment however, did not significantly impact irrational beliefs in the hypothesized direction. When the treatment groups were compared, the face-to-face group was found to be more effective in reducing irrational beliefs than the on-line group. Neither treatment group, however, significantly impacted efficacy beliefs, except in terms of student engagement. In this case, significance was found with the on-line group, but not in the hypothesized direction. The PEST-T trainings did not effect significant differences in measures of depression, anxiety, and stress, despite deviations in the hypothesized direction for the on-line group.

The Classroom Scenario Questionnaire (Warren, 2010c) elicited similar responses across the control and treatment groups. However, self-blaming and demanding related to efficacy beliefs did emerge in the responses of the control group. Several significant relationships were found between irrational beliefs, efficacy, and depression, anxiety, and stress. The final chapter serves to demonstrate the value of these results and provide implications for the findings. Directions for future research will also be discussed.

Chapter V

Discussion and Integration of Results

This study was conducted to assess the effects of a counseling-based intervention, PEST-T, on the thoughts, feelings, and behaviors of elementary school teachers. The relationships between irrational thought, efficacy, and depression, anxiety, and stress were also explored to provide additional insight into the impact these constructs may have on one another. This chapter provides a summary and discussion of these findings. An integration of the results with theory and practice is also provided. Limitations of the study and the PEST-T training programs are discussed as well. The chapter concludes with implications and directions for future research based on the current study.

Hypothesis One

The investigator hypothesized the PEST-T trainings would decrease the irrational beliefs held by the participants. Irrational beliefs are considered a detriment to an individual's emotional and behavioral responses (Dryden & Branch, 2008). These beliefs have the potential to impact teachers in numerous ways, personally and professionally. Teachers maintaining irrational beliefs about teaching will likely experience undue distress and behave in unproductive ways.

Irrational Beliefs. Significant group differences were found between the control group, face-to-face treatment group, and on-line treatment groups in terms of irrational beliefs ($p < .001$). Post hoc analyses comparing the control with each treatment found a

significant difference with the face-to-face treatment ($p < .05$). This finding suggests the face-to-face intervention is effective in reducing teachers' irrational beliefs.

Based on the Tukey HSD criterion for significance, there was no difference between the control and the on-line treatment. In fact, an increase in the mean score for Teachers' Irrational Belief Scale (TIBS) was noted for the on-line group. The on-line group means for the TIBS and its four sub-scales of irrational beliefs consistently moved in the opposite direction than was hypothesized despite the synonymous coverage of material during the trainings. Essentially, the irrational beliefs of the teachers in the on-line group had increased at the conclusion of the treatment. Overall, these findings partially support research conducted by Warren (2010b) in which similar training experiences led teachers to reduce irrational beliefs (see Appendix K).

A high attrition rate (44%) is likely to have impacted the findings of the on-line treatment. While the control and treatment groups were similar in terms of irrational beliefs during the pre-intervention observation, it is plausible the participants remaining in the on-line treatment exhibited higher levels of irrational beliefs than the participants that exited. This exodus of participants would have skewed the post-intervention observation opposite the hypothesis. The lack of a normal distribution at posttest may have overshadowed any decreases in irrational beliefs the on-line treatment may have effected.

Irrational beliefs take various forms and may be directed toward specific adversities (Walen, DiGiuseppe, & Dryden, 1992). For example, teachers may experience low

frustration tolerance when thinking, “I can't stand it when student fail to do as I say.” In an effort to further explore these thoughts, the scores from the subscales of the TIBS were analyzed across control and treatment groups as well. Post hoc analyses were employed when omnibus ANOVAS were significant across the three conditions.

Sub-scales of the TIBS. A Tukey HSD comparison found self-downing attitudes (SDA) of face-to-face participants to be statistically different than the control group ($p < .05$). In other words, self-downing attitudes were reduced among teachers participating in the face-to-face treatment. Authoritarian attitudes towards students (AATS) was significantly impacted by the face-to-face intervention as well ($p < .05$). As a result of the intervention, teachers reported being more flexible and less demanding towards students. While no statistical significance was found with other sub-scales of irrational beliefs, scores from low frustration tolerance attitudes (LFTA) and attitudes of school organization (ASO) trended towards the hypothesized direction for the face-to-face treatment group. In essence, teachers reported increased levels of tolerance and understanding of school administration. It appears that all types of irrational beliefs were decreased, to some degree, for participants of the face-to-face treatment group. Due to the size of the sample of the face-to-face group however, Type II errors may exist for LFTA and ASO. In other words, a significant difference may have existed, although not detected because of the limited number of participants. Another explanation for the non-significant differences of these variables may lie with the treatment. It is plausible the delivery of the content related to low frustration tolerance and attitudes to

school organization during the face-to-face training was not adequately described or presented. In this case, the development of the program or the dissemination of the material may be slightly flawed.

These findings indicate the PEST-T training presented in a face-to-face format was effective in reducing teachers' irrational beliefs. Self-downing attitudes and authoritarian attitudes towards students were also affected by the face-to-face training. The impact of the face-to-face training is consistent with the findings of similar research conducted by Forman & Forman, 1980).

Hypothesis Two

Several authors have suggested a positive relationship exists between teacher efficacy and student achievement (Goddard, Hoy, & Woolfolk, 2004; Henson, 2001; Pintrick & Schunk, 1996; Ross, 1998). One goal of this study was to explore the effects of the PEST-T trainings on teacher efficacy in an effort to impact student achievement. The investigator originally predicted the participants exposed to the PEST-T trainings would report higher levels of efficacy than the control group. The results of the analyses conducted on the participants' responses on the TSES and its subscales did not support this hypothesis. A significant difference was not found for teachers' sense of efficacy when the control and treatment groups were compared ($p > .225$). These findings imply teachers' sense of efficacy did not increase after either treatment experience. The variation of means of the face-to-face and control group scores ranged from .01 (efficacy in instructional strategies) to .06 (efficacy

in student engagement and teacher sense of efficacy). Essentially, the efficacy beliefs of the teachers failed to increase despite exposure to the face-to-face treatment. However, the mean scores for the on-line group were consistently moving opposite of the hypothesized direction. Furthermore, a Tukey HSD analysis indicated on-line group participants' efficacy in student engagement (ESE) was significantly lower than the scores of the control group ($p < .05$). In other words, teachers perceived ability to engage students appears to have decreased as a result of the on-line training. The findings for this hypothesis indicate the PEST-T intervention was not effective under either condition.

The means of the TSES and its sub-scales for the control group and face-to-face group are consistent with results proposed by Tschannen-Moran and Woolfolk-Hoy (2001). The on-line group scores however, failed to maintain consistency across the subscales of the measure. This discrepancy may be the result of differential attrition. It is plausible the participants with a higher sense of efficacy exited the on-line treatment group reflecting a drop in efficacy. Maintaining low numbers of participants in the treatment groups may have also skewed the results. A Type II error may have resulted due to the insufficient power.

Hypothesis Three

Teacher have been found to exhibit symptoms of distress including depression, anxiety, and stress (Bermejo-Toro & Prieto-Ursua, 2006). The PEST -T interventions were developed and implemented in an attempt to reduce teachers' level of stress and associated

symptoms. It was hypothesized that participants would experience decreases in depression, anxiety, and stress as a result of the PEST-T interventions.

This analysis investigated within-group reports of depression, anxiety, and stress at pre- and post- observations. Differences between observations for the face-to-face group were not significant for depression, anxiety, or stress. These findings suggest teachers did not decrease their level of distress after exposure to the intervention. In fact, slight increases in means ranging from .11 (depression) to .33 (anxiety) from the pre-test to the posttest observations existed for all variables. These results indicate the PEST-T face-to-face training did not reduce the levels of depression, anxiety, and stress experienced by the participants.

The on-line treatment group did not report significant changes in levels of depression, anxiety, or stress. However, decreases in the means of each variable ranging from .76 (anxiety) to .80 (depression and stress) were found. While decreases were noted, $p > .10$ for all three variables, suggesting there was no evidence the on-line treatment was effective in reducing teachers' levels of depression, anxiety, and stress.

Several factors may serve as limitations to the results and findings of this hypothesis. History, a common threat to the internal validity of research, may have impacted the participants' degree of stress, anxiety, and/or depression along with their responses to the DASS-21. The trainings concluded in conjunction to the outset of end-of-grade testing. End-of-grade testing can be a hectic and chaotic time of the year for teachers. The introduction of this event may have impacted the levels of depression, anxiety, and stress of

the participants. These emotions may have decreased in intensity due to the impact of the trainings only to revert back to original levels because of the introduction to student testing. Therefore, it is plausible the intervention was effective in reducing one or more of these emotions, despite the lack of evidence. The implementation of a posttest-only design focusing on the differences between groups may have been effective in reducing the effects of history. Therefore, the development and wording of the current hypothesis appears to have limited the scope of the data collection and analysis. Additionally, small samples for both treatment groups may have lead to insufficient power, thus a Type II error may be present. A causal relationship may have existed but was not found. There is also the potential for attrition (44%) to have lead to the decreases in the on-line group means for each variable.

Hypothesis Four

An investigation by Warren (2010b) found no significant difference in terms of irrational beliefs between the effects of on-line and face-to-face REBT treatments for teachers. Therefore, it was hypothesized face-to-face and on-line group participants would report similar levels of irrational beliefs at the conclusion of the PEST-T intervention. However, statistical significance was found between the treatment groups when total scores from the TIBS were compared. Teachers' irrational beliefs were greatly reduced as a result of the face-to-face treatment group. Additionally, self-downing attitudes, low frustration tolerance attitudes, and authoritarian attitudes toward students were also found to be

statistically different. Essentially, the face-to-face intervention was more effective in decreasing self-downing, increasing levels of tolerance and increasing acceptance and understanding of students. Attitudes to School Organization was not statistically different, but trended towards significance ($p = .053$). As a result of the PEST-T training, teachers in the face-to-face group appeared to be more understanding of school administration. These findings suggest the face-to-face intervention was more effective in reducing all types of irrational beliefs as compared to the on-line group.

There are several possible reasons for failing to reject the null hypothesis. As indicated in previous discussions of hypotheses, attrition occurring with the on-line treatment group likely impacted the findings. Logistical factors may have also impacted the quality and quantity of time the on-line group participants dedicated to the training. On-line group participants could not access the training material via school computers. Therefore participants could not complete the training during school hours. Essentially, while both treatment groups covered the same material, the format may have hindered the outcome of this study. Additionally, experimenter expectancy, a threat to construct validity, potentially impacted the results of this hypothesis. It is possible the difference in groups is related to expectancy and not the treatment (Heppner, Wampold, & Kivlighan, 2008). The principle investigator served as the trainer for the face-to-face treatment group. While the investigator was aware of this threat to validity, biases can be difficult to contain. It is possible the communication and dialog maintained during the treatment included biases that swayed the

participants responses to the TIBS. While the investigator facilitated the on-line training as well, opportunity for experimenter expectancy to impact the participants remained minimal.

Hypothesis Five

Warren (2010b) found a weak relationship between teachers' sense of efficacy and irrational beliefs. Strong negative relationships were also found for several sub-scales of the TSES and TIBS. Therefore, the investigator of this study hypothesized a relationship exists between efficacy beliefs and irrational beliefs.

A moderate relationship was found between irrational beliefs and self-efficacy ($r = -.47, p < .001$). This correlation suggests that participants' maintaining a high level of irrational beliefs are likely to have a low sense of efficacy. Also stated, the participants' level of irrational beliefs are inversely reciprocal to the level of self-efficacy. Worry, problem avoidance, and demand for approval, sub-scales of the Irrational Beliefs Inventory, were also found to have moderate negative relationships with self-efficacy. This suggests that the more participants worry, avoid problems, and demand approval the lower their perceived ability to complete a task will become. Furthermore, teachers that have few irrational thoughts related to worry, avoidance of problems, and approval seeking will generally perceive themselves as capable of successfully reaching a desired outcome.

Additional correlational analyses were conducted to explore the relationships between irrational beliefs and depression, anxiety, and stress. Consistent with the REBT theory of emotional disturbance, the findings indicated irrational beliefs have a moderate positive

relationship with depression and anxiety. In other words, the intensity and frequency of the irrational beliefs held by teachers will most likely determine the level of depression and anxiety they experience. A strong positive correlation was found between irrational beliefs and stress. This means the level of stress experienced by teachers is directly related to irrational beliefs. For example, a high level of irrationality equates to a high level of stress. Of the constructs measured by the IBI, worry was found to have the strongest relationships with depression, anxiety, and stress. These emotions appear to be strongly influenced by irrational thoughts specific to worry. It can be concluded that the more teachers ruminate and worry the greater the level of depression, anxiety, and stress they experience. These findings strengthen those of Bermejo-Toro and Prieto-Ursua (2006) by further demonstrating the positive relationship between irrational beliefs and teacher distress.

Still further analyses examined the relationships between self-efficacy and depression, anxiety, and stress. Interestingly, self-efficacy demonstrated consistent moderate to strong relationships with the constructs measured by the DASS-21. Correlations ranged from $-.47$ (stress) to $-.53$ (depression). In essence, teachers that perceived themselves to have the ability to accomplish tasks, are more likely to experience few emotions related to depression, anxiety, or stress. Self-efficacy does appear to be related to symptoms of teacher distress.

There do not appear to be threats to validity for the findings of this hypothesis. For example, the responses from all study participants were used when exploring the

relationships of the constructs under investigation. The sample used for assessing this hypothesis appears to be representative of the general population of elementary school teachers. All of the measures used during the pre-intervention observation were found to be reliable and valid. Furthermore, the measures were administered in random order to control for ordering effects.

Hypothesis Six

Ellis (1962) first posited the interrelationships of cognition, emotion, and behavior while developing the theory of REBT. Since, REBT has been found effective in addressing irrational beliefs, enhancing emotional health, and fostering self-helping behaviors (Ellis & Dryden, 1997; Ellis & MacLaren, 2005; Ellis & Wilde, 2002). By developing a more rational philosophy of life, individuals (including teachers) can effectively cope with adverse events (Dryden, 2009).

The investigator of this study hypothesized that participants of the PEST-T trainings would respond to adverse classroom situations in more effective and helpful ways. Consensual qualitative research (CQR) was utilized in the development of domains, core ideas and categories. Cross-analyses were conducted with-in groups and across the three conditions. The domains were based on question content from the scenarios of the Classroom Scenarios Questionnaire (CSQ).

Domain 1: Feelings

Feelings frequently lead individuals to act and behave various ways. The theory of REBT suggests negative feelings can be healthy or unhealthy (Ellis & MacLaren, 2005). Negative feelings toward the scenarios presented in the CSQ were found across all groups. Frustration was the most prominent feeling teachers stated they would experience. This emotion is considered both healthy and unhealthy, dependent upon the intensity (Dryden & Neenan, 2004). However, based on the responses of the CSQ, the degree of frustration teachers thought they would experience during the scenarios cannot be determined. Other common negative feelings presented by the participants across all groups included annoyance and disappointment. While these emotions are topically consistent with healthy negative emotions, there is the potential for participants to have misidentified their emotions (Walen, DiGuiseppe, & Dryden, 1992). For example, a teacher may feel angry about a situation but describe the emotion as annoyance or frustration. Further expansion of the emotional vocabulary of teachers may assist them in appropriately labeling emotions. While inconclusive, these findings suggest the PEST-T training did not change the participants feelings toward classroom situations.

Domain 2: Thoughts

Dryden (2008, 2009) suggested rigid thoughts have a greater impact on feelings than situations or even inferences about situations do. Rigid, or irrational thoughts take the form of demands such as “you must” or “ he should.” Thoughts can also be considered flexible in nature, such as “I prefer to...” or “I would like you to...”. Flexible thoughts about adverse

events lead to more helpful responses (Dryden & Neenan, 2006; Ellis, 1962; Ellis & MacLaren, 1998) Three categories of thoughts were deduced from the data.

Assumptive thoughts were found across each group. *Assumptive* thoughts may be similar to inferences in REBT terms. Inferences, like assumptions, are hunches or interpretations about situations that may be correct or incorrect (Dryden, 2008). Teachers from each group appeared to present thoughts that may or may not be correct when processing the scenarios presented. These assumptions, such as “the student doesn't care” can hinder the teacher-student relationship or lead to undue stress.

Realistic thoughts were also extracted from the teachers' responses to the scenarios. These thoughts were also found in each group. *Realistic thoughts* are consistent with a concept proposed by Maultsby (1984) called “camera check” of perceptions. The thought, “the student is not following directions” was considered realistic because a photo of the situation could verify this thought. The development of this category across groups illustrates the potential for teachers interpret situations as they appear, based on fact alone.

Demands was the final category created based on the participants' responses. Demands are strong preferences that have become rigid and dogmatic. REBT considers demands to be irrational beliefs that include words like “should,” “must,” or “need to.” (Dryden, 2008). The participants from each groups reported they would have thoughts consistent with *demands*. Thoughts similar to “students should not have to be reminded” were noted in the control and treatment groups. However, it is difficult to determine if these

thoughts are actual demands or preferences stated as demands. Dryden (2008) discussed language as often impeding the identification of absolute and non-absolute shoulds. Nonetheless, teachers appear to incorporate a combination of *realistic*, *assumptive*, and *demanding* thoughts when assessing adverse situations. This finding is consistent with the theoretical propositions of REBT (Walen, DiGuiseppe, & Dryden, 1992)

Domain 3: Behaviors

Behaviors included any type of action or response directly or indirectly conducted by the teacher during the course of the day. Participants stated they would behave in a number of ways if faced with the scenarios presented on the CSQ. Three categories emerged as representative of the participants responses.

Core ideas supporting *management*, *communication*, and *support* were found in responses from participants of each group. These behaviors are considered both positive and helpful in assisting students growth and academic development. While teachers reported they would behave in these ways if presented with adverse situations described in the CSQ, these behaviors are inconsistent with some of the thoughts and feelings described. The participants may have glorified their responses to the classroom situations in a effort to “save face.” It is also possible that teachers would respond in supportive ways although display verbal tones and mannerisms consistent with the demanding thoughts and negative feelings described. In this case, the teacher may hinder the effectiveness of the management, communication, or support provided. Based on the perceived behavioral responses however,

the teachers from all three groups would appear to respond in helpful ways regardless of their thoughts and feelings.

Domain 4: Efficacy

Bandura (1977), described efficacy as, “ones perceived ability to complete a certain task. Question Five of each scenario on the CSQ specifically asked participants about their perceived level of efficacy if faced with the presenting scenario. The majority of the study's participants indicated their level of efficacy towards a specific situations would not change as a result of the perceived experience. Essentially, the teachers implied they would not base their perceived ability handle a situation on one experience. The teachers from each condition implied their level of efficacy is relatively stable.

Across the three groups, core ideas emerged from responses to Question Five that were representative of *assumptive* and *realistic* thoughts. While *assumptive* thoughts appeared irrelevant to the stable perceived efficacy the participants described, *realistic* thoughts supported the teachers non-wavering, perceived ability. For example, teachers from all groups alluded to “patience” and understanding “differences in children” suggesting they hold a sense of resilience in the classroom.

One category in this domain emerged primarily from responses of the participants in the control group. *Self-blame* was consistently described across observations for the control group participants. Only one core idea consistent with self-blame was identified for the on-line group participants. Participants in the face-to-face treatment group did not describe

thoughts consistent with self-blame. There is no indication why these core idea emerged from the control group participants, while essentially non-existent in the treatment groups. The possibility exists that participants in the treatment groups were exposed to aspects of REBT that addressed self-blaming thoughts. In this case, it is possible the trainings were effective in reducing or eliminating self-blaming thoughts.

In sum, responses from the CQR provided valuable information despite the minimal differences noted. It appears teachers understand what responses are appropriate for classroom situations even though alternative actions may be taken. The feelings noted by teachers appeared appropriate for the scenarios presented. The overall thoughts detailed across the control and treatment groups suggest a lack of stability during processing and reasoning through scenarios.

Limitations of Study

Several limitations of the study have been addressed within the presentation of the results. Other limitations to this study are present and warrant acknowledgment and explanation. However, limitations are expected due to the general nature of field studies. Moderate internal and external validity are frequently found with experimental field studies (Heppner, Wampold, & Kivlighan, 2008). The most crucial limitations of this study are explicated and discussed.

A major concern for this study is the limited number of participants. While the control group was adequately sized, the face-to-face and on-line group maintained relatively

low numbers of participants. In regards to statistical conclusion validity, low statistical power is a threat due to the low number of participants in the study. As a result, the potential for Type II errors exist for several of the hypotheses.

The on-line treatment group members participated in the training asynchronously throughout each week. Due to logistical issues, participants could not access the training materials via the Internet at their respective school. This factor may have led to extraneous variance in the experimental setting. In other words, the participants may have completed part(s) of the training at home, a coffee shop, while watching television, or when they were tired. These factors would lead to extraneous variance in the on-line participants' responses.

In regards to internal validity, several limitations attempt to undermine the study. Participants were grouped in either the control, face-to-face, or on-line group based on their school affiliation. Additionally, participants were provided Continuing Education Units (CEUs) as well as an opportunity to win \$100 at the conclusion of the trainings. The pre-determined group assignment and lack of randomness may have led to non-equivalent groups. However, because of the intentional grouping of participants, cross-contamination was controlled for. Preliminary analyses were conducted to control for these threats and to determine the level of homogeneity across groups. However, due to the size of the groups, differences may have not been found.

History is typically a threat to the validity of a study when the design includes only one group (Heppner, Wampold, & Kivlighan, 2008). Aspects of this study however, may be

compromised by history, despite a three group experimental design. Levels of stress for each group potentially increased towards the conclusion of the trainings due to upcoming end-of-grade testing. If this occurred, the posttest responses may have reflected the impact of the upcoming event, thus negating the effects of the trainings.

Concerns for attrition, specifically in regards to the on-line group, has been discussed in earlier sections. This is a major threat to the internal validity of the study. It is possible the remaining on-line group members differed in some way from the participants who withdrew from the training. In this case, the posttest responses for the on-line group would not be representative of the effects of the training.

Several threats to construct validity appear to exist. Experimenter expectancies may have impacted the responses of the participants beyond the effects of the training. If this occurred, the scores of the measures may be elevated, implying the training was more effective than it actually was. The face-to-face treatment group was most vulnerable to this threat due to the format of the training. Interestingly, the most significant findings of this study were noted in the face-to-face group.

Additionally, both treatment groups could be considered psychoeducational in nature. Models of thinking, feeling, and behaving were presented and discussed throughout the trainings. As a result, it is possible treatment-sensitive factorial structure threatened the construct validity of this study. Because participant were directly instructed about concepts related to irrational beliefs and efficacy beliefs, they may have become aware of certain

aspects of these constructs pertinent to them. Therefore, the participants' responses may misrepresent the effectiveness of the trainings.

A final limitation of this study rests with external validity. The degree of generalizability of this study is called into questions due to the absence of random sampling. The participants volunteered to participate in the study, leading to a lack of control for homogeneity within the study. However, the heterogeneity of the participants may enhance the generalizability of the findings. It is plausible the findings of the study can be generalized across the general population of elementary school teachers willing to volunteer for such a training.

Limitations of Program

As with most programs or training platforms, PEST-T also maintained several limitations in addition to those noted of the study. Yankura and Dryden (1990) discuss the value of homework when attempting to change belief and behavioral patterns. This intervention would have been enhanced if tasks were assigned as homework. The material presented related to disputations and challenging of irrational beliefs would have been further solidified possibly leading to an increase in the effects of the PEST-T trainings.

Additionally, the face-to-face and on-line interventions both span eight weeks. The face-to-face training included seven sessions while the on-line training comprised five sessions. Teachers were asked to dedicate approximately eight and a half hours to the training, with one and a half hours allowed for measure completion. The total time dedicated

to the training may have appeared excessive for many of the teachers. However, to effect cognitive and behavioral changes, time and practice are required. While these trainings are largely a first attempt to effect cognitive change and enhance classroom behaviors, it could be argued the current time requirement was adequate. The length of time for each session of the face-to-face trainings appeared to be sufficient. The on-line group participants were also provided an adequate amount of time to complete each session. However, it is likely the effects of the trainings would have been enhanced if the number of sessions were increased.

The on-line intervention maintained its share of limitations throughout the study. The main concern of this intervention rests specifically with the logistical nuances related to participant access. The school systems' technology department would not unblock the hosting website for the discussion board used in the on-line training. As a result, the on-line participants were required to participate from remote computers. This created a barrier for the participants interested in completing the training during planning periods, during lunch, or immediately after school in their classroom. Different treatment effects may have resulted if these options were available to the on-line group members. Additionally, attrition may have been reduced if these barriers to receiving the on-line training were not present.

Implications and Future Research

Little research has been conducted on the impact of mental health trainings on teachers. This study attempted to establish a need for such trainings and provide evidence-based counseling interventions that demonstrate classroom applicability. While many

findings resulted, there are still aspects of this study that deserve investigation and analyses. For example, comments and dialog of the on-line group participants' were captured via a discussion board throughout the training. This data can be analyzed through qualitative means to gain a richer and deeper understanding of the thoughts and experiences of these participants. Additionally, the Post-Intervention Questionnaire (PIQ) was administered to the participants of both treatment groups. However, the hypotheses developed during this study did not warrant analysis of the data collected from the PIQ. This data may provide insight into the training experiences of the participants. A qualitative analysis of the data may offer suggestions for revisions or modifications of the trainings.

Additionally, conducting a follow-up observation of teachers exposed to the face-to-face and on-line treatments, given their consent, would provide insight into the lasting effects of the trainings. Ellis (1962, 1971, 1975, 2005) and others have emphasized cognitive change occurs most readily when individuals continue to challenge irrational beliefs and practice rational thinking. Conducting a six month follow-up, for example, may begin to answer questions related to level of teacher engagement, training duration, and degree of support needed for teachers to maintain and effect cognitive-behavioral change.

Finally, replicating the present study with a larger sample would further validate the current findings. While educational research is difficult to navigate in terms of randomization, cluster sampling may be a valid alternative. Enlisting all staff members from targeted schools would offer a normalized sample, more representative of the teacher

population. The results of this study may spawn many directions for future research related to teacher and student support through counseling interventions. Notwithstanding, a number of implications for researchers and practitioners emerge:

- A series of seven face-to-face PEST trainings may not produce significant changes in the behavioral responses of teachers facing adverse situations. While the current form of face-to-face training was found to alleviate irrational thoughts, the level of internalization remains in question due to the lack of emotional or behavioral change.
- Gaining clearance inside schools in an effort to compare perceived responses to actual responses to adverse situations will be a valuable strategy for researchers in the future. Perceived responses may differ from actual responses and may equate to “knowing what to do but failing to do it.” Researchers will want to develop qualitative research designs focused on gathering data based on a combination of teacher observation and interviews.
- As technology advances, a redesigned on-line PEST-T training may prove to be as effective as the face-to-face delivery. There are many advantages to utilizing the Internet as a delivery method for trainings. The inclusion of synchronous sessions within an asynchronous design is worth exploring. Additionally, a modification of the face-to-face training to include on-line components may be equally effective.
- Professional school counselors can play an integral role in the training of teachers and other school personnel in PEST-T or other mental health related topics. Through

- collaboration and consultation with teachers and staff, school counselors can advocate for students by developing programs that increase teacher well-being.
- The PEST trainings and other future counseling-based trainings need to be engaging and applicable to classroom and school situations. Furthermore, reducing the theoretical and philosophical components may be more appealing to teachers. Ensuring the training is non-threatening and user friendly will be a challenge as REBT is directive and active in nature.
 - Some of the core tenets of REBT appear to debunk the typical mindset of teachers. For example, teachers usually think that “students should listen and follow directions” or “parents should help their child with homework.” These thoughts however, are desirable but not mandatory.” Therefore, teachers may experience higher levels of cognitive dissonance or simply reject the content of the trainings altogether. Trainers will need to navigate this issue carefully, accepting teachers positions, yet providing clear alternative perspectives.
 - Professional school counselors will want to advocate for their role as a trained mental health clinician in their school. This may require taking on a leadership role as the expert in social and emotional development and delegating non-counseling related duties to others. School counselors can also demonstrate competence through consultation, collaboration, and teaming (ASCA, 2005). This form of advocacy and self-promotion would enhance the responses of teachers when presented with the

opportunity to participate in a mental health training conducted by the school counselor.

- Researchers in the fields of counselor education and teacher education will want to further explore the benefits of teaming together and working collaboratively in an effort to appropriately prepare teachers for the demands of teaching. Nucci (2002) and Pirtle and Perez (2003) suggested the integration of counseling theory with teacher training programs have greatly benefit beginning teachers. Additionally, teachers spend an inordinate amount of time with their students. If teachers are trained in basic counseling theory, they will be able to respond to adverse classroom situations in ways that positively impact students and the classroom.
- As a result of participating in mental health based professional development such as PEST-T, teachers will likely be able to more quickly identify students in need of mental health services and refer them to the professional school counselor on staff. This added component to the teachers' repertoire will enhance the collaborative efforts of the teacher and professional school counselor while promoting the level of education received by the student.

Conclusion

This study attempted to examine the effects of interventions based on Social Cognitive Theory and Rational Emotive Behavior Therapy. The investigator is not aware of other studies implementing interventions of this type in an effort to enhance teacher

performance. The findings of this study appear to move the counseling profession and educators in complementary directions. School counselors, teachers, and administrators may find the outcomes of this study enlightening and encouraging from a collaborative perspective.

The interventions developed through this study appear to be viable in assisting teachers in enhancing mental health and well-being. While the on-line intervention appeared to have several logistical flaws and threats to validity, the face-to-face intervention appeared to impact teachers beliefs by decreasing irrational thoughts. Efficacy beliefs however, remained relatively steady across the treatments.

The relationships found between irrational beliefs and efficacy beliefs suggest that these beliefs are independent of one another and often accompany each other. Walen, DiGuiseppe, and Dryden (1992) implied that efficacy beliefs are not always accompanied by irrational beliefs. However, this study suggests irrational beliefs and efficacy beliefs are dependent on one another. This finding may be an integral step in exploring ways to increase teacher efficacy, which has been associated with student achievement (Anderson, Greene, & Loewen, 1998, Ross, 1992, Ross & Bruce, 2007, Watson, 1992).

Teacher distress is prevalent across schools throughout the county. Many extraneous factors contribute to the stress and burnout experienced by teachers. However, the relationship between irrational beliefs and teachers' levels of stress is evident (Bermejo-Toro & Prieto-Ursua, 2006). Additionally, the findings of this study suggest a relationship

between efficacy and teacher distress. The possibility of reducing stress and increasing efficacy via addressing the irrational beliefs of teachers is implicit in the findings of this study and research conducted by Warren (2010b).

Professional school counselors are in an ideal position to incorporate mental health-based teacher trainings into comprehensive school counseling programs. Current models of school counseling (ASCA, 2005; Galassi & Akos, 2007) support this strength promoting, climate changing endeavor. School counselors have the potential to impact teacher and student success as well as the entire culture of the school through interventions presented in this study.

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APPENDICES

Appendix A

North Carolina State University
INFORMED CONSENT FORM for RESEARCH
This consent form is valid 2/22/2010 through 2/22/2011

Title of Study: The Impact of PEST-T Trainings on Teacher Beliefs, Emotions, and Performance

Principal Investigator: Jeffrey M. Warren
Gerler

Faculty Sponsor: Dr. Edwin

We are asking you to participate in a research study. The purpose of this study is to investigate the effects of a Social Cognitive Theory (SCT) and Rational Emotive Behavior Therapy (REBT) intervention, also called PEST-T (Performance Enhancing Strategies and Techniques for Teachers), on teacher's classroom performance, including associated thoughts, feelings, and behavior.

INFORMATION

If you agree to participate in this study, you will be assigned to the training group that has been established for your school. These groups include: PEST-T face-to-face, PEST-T on-line, or a control group. Both versions of the training will total seven hours across eight weeks. The control group will receive the on-line intervention at the conclusion of this study. Upon agreeing to participate in the study, you will be asked to complete the following items: Demographic Form, General Self Efficacy Scale, Irrational Beliefs Inventory, and Depression Anxiety Stress Scale-21. At the conclusion of the study, you will be asked to complete the following instruments and forms: The Depression Anxiety Stress Scale-21, Teacher Irrational Belief Scale, Teachers' Sense of Efficacy Scale, the Classroom Scenario Questionnaire and an interview form. Three hours will be allotted for the completion of all measures and instruments.

The trainings will provide the participants with knowledge and application of two counseling theories, SCT and REBT. Thoughts, feelings, and behaviors of teachers in the classroom setting will be explored throughout both trainings. The face-to-face training will utilize techniques and strategies including exploring beliefs, role play, reverse role play, and the ABC (Activating Event-Belief-Consequence) model. The on-line training will comprise articles related to SCT and REBT and classroom application. All interaction for the on-line training will occur via an on-line discussion board.

RISKS

There does not appear to be significant risk associated with this study. It is also highly unlikely the study procedures could produce stress or anxiety, or be considered offensive, threatening, or degrading. However, you will be asked questions about your teaching ability, philosophy, and personal philosophy. These questions may cause you discomfort and if confidentiality were inadvertently breached, you may experience embarrassment. The researchers will protect the confidentiality of your responses by using a code number on study materials.

BENEFITS

This study will offer participants self helping solutions for life adversities as well as those events that occur in the classroom and school. Participation in this study will aid in promoting the application of counseling theory in the classroom environment. Participants will learn ways to increase effectiveness and enhance relationships when interacting with students. The findings of this study will serve as a basis for future teaching/counseling integration and future research in PEST-T trainings.

COMPENSATION

Continuing Education Units (CEUs) will be awarded by Franklin County Schools to participants who participate in the study. Participants who complete the trainings will be entered in a drawing for a chance to win \$100.

CONFIDENTIALITY

The information provided by the participants will be kept strictly confidential. Participant's engaged in PEST-T via the on-line discussion board will have the opportunity to remain anonymous when posting comments. Furthermore, all contents of the discussion board will remain confidential. Data will be stored securely in a confidential location only known by the principal investigator. Data will be destroyed after 5 years from the completion of the study. No reference will be made in oral or written reports which could link you to the study, while quotations from open ended questions may be used in reports, but your identity will be masked. If selected for the \$100 drawing compensation, participants will be asked to provide their identity, contact information, and may be asked to sign a receipt.

CONTACT

If you have questions at any time about the study or the procedures, you may contact the researcher, Mr. Jeffrey M. Warren, at 3749 Benson Drive, Suite A, Raleigh, NC, 27609 or at 919-497-7892. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact the NCSU Institutional Review Board (IRB) at 919.515.4514 or 919.515.7515.

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be returned to you or destroyed at your request.

CONSENT

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may withdraw at any time.”

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix B

Depression, Anxiety, Stress Scale—21 (DASS-21—Lovibond & Lovibond, 1995)

Please read each statement and circle a number 0, 1, 2 or 3 that indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all

1 Applied to me to some degree, or some of the time

2 Applied to me to a considerable degree, or a good part of time

3 Applied to me very much, or most of the time

- | | | | | |
|---|---|---|---|---|
| 1. I found it hard to wind down | 0 | 1 | 2 | 3 |
| 2. I was aware of dryness of my mouth | 0 | 1 | 2 | 3 |
| 3. I couldn't seem to experience any positive feeling at all | 0 | 1 | 2 | 3 |
| 4. I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion) | 0 | 1 | 2 | 3 |
| 5. I found it difficult to work up the initiative to do things | 0 | 1 | 2 | 3 |
| 6. I tended to over-react to situations | 0 | 1 | 2 | 3 |
| 7. I experienced trembling (eg, in the hands) | 0 | 1 | 2 | 3 |
| 8. I felt that I was using a lot of nervous energy | 0 | 1 | 2 | 3 |
| 9. I was worried about situations in which I might panic and make a fool of myself | 0 | 1 | 2 | 3 |
| 10. I felt that I had nothing to look forward to | 0 | 1 | 2 | 3 |

| | | | | |
|---|---|---|---|---|
| 11. I found myself getting agitated | 0 | 1 | 2 | 3 |
| 12. I found it difficult to relax | 0 | 1 | 2 | 3 |
| 13. I felt down-hearted and blue | 0 | 1 | 2 | 3 |
| 14. I was intolerant of anything that kept me from getting on with what I was doing | 0 | 1 | 2 | 3 |
| 15. I felt I was close to panic | 0 | 1 | 2 | 3 |
| 16. I was unable to become enthusiastic about anything | 0 | 1 | 2 | 3 |
| 17. I felt I wasn't worth much as a person | 0 | 1 | 2 | 3 |
| 18. I felt that I was rather touchy | 0 | 1 | 2 | 3 |
| 19. I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat) | 0 | 1 | 2 | 3 |
| 20. I felt scared without any good reason | 0 | 1 | 2 | 3 |
| 21. I felt that life was meaningless | 0 | 1 | 2 | 3 |

Appendix C

Teachers' Sense of Efficacy Scale--long form (TSES—Tschannen-Moran & Woolfolk-Hoy, 2001

Directions: 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 opinion about each of the statements below. Your answers are confidential.

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

Teacher Beliefs

How much can you do?

- | | |
|--|-------------------------------------|
| 1. How much can you do to get through to the most difficult students? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 2. How much can you do to help your students think critically? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 3. How much can you do to control disruptive behavior in the classroom? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 4. How much can you do to motivate students who show low interest in school work? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 5. To what extent can you make your expectations clear about student behavior? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 6. How much can you do to get students to believe they can do well in school work? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 7. How well can you respond to difficult questions from your students ? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 8. How well can you establish routines to keep activities running smoothly? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 9. How much can you do to help your students value learning? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 10. How much can you gauge student comprehension of what you have taught? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 11. To what extent can you craft good questions for your students? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 12. How much can you do to foster student creativity? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 13. How much can you do to get children to follow classroom rules? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 14. How much can you do to improve the understanding of a student who is failing? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |
| 15. How much can you do to calm a student who is disruptive or noisy? | (1) (2) (3) (4) (5) (6) (7) (8) (9) |

16. How well can you establish a classroom management system with each group of students? (1) (2) (3) (4) (5) (6) (7) (8) (9)
17. How much can you do to adjust your lessons to the proper level for individual students? (1) (2) (3) (4) (5) (6) (7) (8) (9)
18. How much can you use a variety of assessment strategies? (1) (2) (3) (4) (5) (6) (7) (8) (9)
19. How well can you keep a few problem students from ruining an entire lesson? (1) (2) (3) (4) (5) (6) (7) (8) (9)
20. To what extent can you provide an alternative explanation or example when students are confused? (1) (2) (3) (4) (5) (6) (7) (8) (9)
21. How well can you respond to defiant students? (1) (2) (3) (4) (5) (6) (7) (8) (9)
22. How much can you assist families in helping their children do well in school? (1) (2) (3) (4) (5) (6) (7) (8) (9)
23. How well can you implement alternative strategies in your classroom? (1) (2) (3) (4) (5) (6) (7) (8) (9)
24. How well can you provide appropriate challenges for very capable students? (1) (2) (3) (4) (5) (6) (7) (8) (9)

Appendix D

General Self Efficacy Scale (GSES--Schwarzer & Jerusalem, 1993).

Directions: Using the scale below, indicate the extent to which you agree or disagree with the following statements.

- 1—NOT AT ALL TRUE (NT)
- 2—HARDLY TRUE (HT)
- 3—MODERATELY TRUE (MT)
- 4—EXACTLY TRUE (ET)

- 1. I can always manage to solve difficult problems if I try hard enough. _____
- 2. If someone opposes me, I can find the means and ways to get what I want. _____
- 3. It is easy for me to stick to my aims and accomplish my goals. _____
- 4. I am confident that I could deal efficiently with unexpected events. _____
- 5. Thanks to my resourcefulness, I know how to handle unforeseen situations. _____
- 6. I can solve most problems if I invest the necessary effort. _____
- 7. I can remain calm when facing difficulties because I can rely on my coping abilities. _____
- 8. When I am confronted with a problem, I can usually find several solutions. _____
- 9. If I am in trouble, I can usually think of a solution. _____
- 10. I can usually handle whatever comes my way. _____

Total Scale Score: _____

Appendix E

Irrational Beliefs Inventory (IBI—Koopmans Sanderman, Timmerman, & Emmelkamp, 1994)

1--strongly disagree
2--disagree
3--neutral
4--agree
5--strongly agree

| | 1 | 2 | 3 | 4 | 5 |
|---|----------|----------|----------|----------|----------|
| 1. If I can't keep something from happening, I don't worry about it. | 0 | 0 | 0 | 0 | 0 |
| 2. I worry a lot about certain things in the future. | 0 | 0 | 0 | 0 | 0 |
| 3. Certain people are bad or wicked and should be severely punished for their sins. | 0 | 0 | 0 | 0 | 0 |
| 4. People should observe moral laws more strictly than they do. | 0 | 0 | 0 | 0 | 0 |
| 5. I want everyone to like me. | 0 | 0 | 0 | 0 | 0 |
| 6. I often can't get my mind off some concern. | 0 | 0 | 0 | 0 | 0 |
| 7. I tend to become terribly upset when things are not the way I would like them to be. | 0 | 0 | 0 | 0 | 0 |
| 8. I am fairly easygoing about life. | 0 | 0 | 0 | 0 | 0 |
| 9. Punishing oneself for all errors will prevent future mistakes. | 0 | 0 | 0 | 0 | 0 |
| 10. I hardly ever think of such things as death or atomic war. | 0 | 0 | 0 | 0 | 0 |
| 11. I avoid facing my problems. | 0 | 0 | 0 | 0 | 0 |
| 12. A person won't stay angry or blue long, unless he keeps himself that way. | 0 | 0 | 0 | 0 | 0 |
| 13. I usually try to avoid chores which I dislike doing. | 0 | 0 | 0 | 0 | 0 |
| 14. Those who do wrong deserve to be blamed. | 0 | 0 | 0 | 0 | 0 |
| 15. If a person wants to, he can be happy under almost any circumstances. | 0 | 0 | 0 | 0 | 0 |
| 16. I tend to worry about possible accidents and disasters. | 0 | 0 | 0 | 0 | 0 |

- | | |
|--|-----------|
| 17. Nothing is upsetting in itself - only in the way you interpret it. | 0 0 0 0 0 |
| 18. A large number of people are guilty of bad sexual conduct. | 0 0 0 0 0 |
| 19. I often get excited or upset when things go wrong. | 0 0 0 0 0 |
| 20. It is sinful to doubt the Bible. | 0 0 0 0 0 |
| 21. I often worry about how people approve of and accept me. | 0 0 0 0 0 |
| 22. Sometimes I can't get a fear off my mind. | 0 0 0 0 0 |
| 23. I hate to fail at anything. | 0 0 0 0 0 |
| 24. The fear of punishment helps people to be good. | 0 0 0 0 0 |
| 25. I shrink from facing a crisis or difficulty. | 0 0 0 0 0 |
| 26. I feel little anxiety over unexpected danger or future events. | 0 0 0 0 0 |
| 27. If something is necessary, I do it even if it is unpleasant. | 0 0 0 0 0 |
| 28. Frustrations upset me. | 0 0 0 0 0 |
| 29. One should blame oneself severely for all mistakes and wrongdoings. | 0 0 0 0 0 |
| 30. People are disturbed not by situations but by the view they take of them. | 0 0 0 0 0 |
| 31. I usually put off important decisions. | 0 0 0 0 0 |
| 32. I get terribly upset and miserable when things are not the way I like them to be. | 0 0 0 0 0 |
| 33. More people should face up to the unpleasantness of life. | 0 0 0 0 0 |
| 34. Helping others is the very basis of life. | 0 0 0 0 0 |
| 35. There is a right way to do everything. | 0 0 0 0 0 |
| 36. It is difficult for me to do unpleasant chores. | 0 0 0 0 0 |
| 37. It is important to me that others approve of me. | 0 0 0 0 0 |
| 38. Too many evil persons escape the punishment they deserve. | 0 0 0 0 0 |
| 39. It is realistic to expect that there should be no incompatibility in marriage. | 0 0 0 0 0 |
| 40. I often spend more time trying to think of ways of getting out of things than it would take me to do them. | 0 0 0 0 0 |

- | | |
|---|-----------|
| 41. Immorality should be strongly punished. | 0 0 0 0 0 |
| 42. There is never any reason to remain sorrowful for very long. | 0 0 0 0 0 |
| 43. What others think of you is most important. | 0 0 0 0 0 |
| 44. One should rebel against doing unpleasant things, however necessary, if doing them is unpleasant. | 0 0 0 0 0 |
| 45. I can't stand to take chances. | 0 0 0 0 0 |
| 46. Man makes his own hell within himself. | 0 0 0 0 0 |
| 47. I dislike responsibility. | 0 0 0 0 0 |
| 48. Although I like approval, it's not a real need for me. | 0 0 0 0 0 |
| 49. People who are miserable have usually made themselves that way. | 0 0 0 0 0 |
| 50. I have considerable concern with what people are feeling about me. | 0 0 0 0 0 |

Appendix F

Teachers Irrational Beliefs Scale (TIBS—Bernard, 1990)

Directions: Using the scale below, indicate the extent to which you agree or disagree with the following statements.

1---Strongly Disagree (SD)

2---Disagree (D)

3---Not Sure (NS)

4---Agree (A)

5---Strongly Agree (SA)

1. I think I'm really inadequate when I don't get the approval or respect for what I do. _____

2. The prospect of teaching a class I don't have good control over is more than I can take. _____

3. I think I'm a failure when I haven't "got through" to a student or class. _____

4. I really should be able to solve all my students' problems perfectly. _____

5. I should be able to succeed at all the important things I do at school. _____

6. To make mistakes or perform poorly as a teacher is for me one of the worst things in the world. _____

7. I feel totally hopeless when I don't get all of my work done on time. _____

8. I can't stand being criticized or thought badly of when I haven't finished something or done it properly. _____

Sub-Score: _____

9. I find it too hard to balance my home and work demands. _____

10. I shouldn't have to work so hard. _____

11. Schools are really lousy places because they give teachers too much work and not enough time to do it. _____

12. It's really bad to have to put in so many hours both inside and outside the classroom. _____

Sub-Score: _____

13. One thing I find totally bad is the lack of communication between teachers and central administration. _____

14. Teachers should be consulted about decisions. _____

15. Schools really should attend more to teachers' problems and it is totally unfair when they don't. _____

16. Without good teacher-administrator communication and support, schools are the very worst places to work. _____

17. I can't stand it when I am not consulted about a decision that affects my teaching. _____

Sub-Score: _____

18. As a teacher, I should have the power to be able to make my students do what I want. _____

19. Students should always be respectful, considerate and behave well. _____

20. Students who constantly misbehave are horrible and should be severely punished. _____

21. I can't stand it when students misbehave. _____

22. It's really awful to have to teach in a class where there are so many problems. _____

Sub-Score: _____

Total Scale Score: _____

Appendix G

Post Interview Questionnaire
(Warren, unpublished)

Directions: Please complete the following questions. Please provide as much detail as possible.

1. After receiving this training, what is your view of it's effectiveness in helping you interact with others, specifically students in the classroom? _____

2. How have your beliefs related to teaching, students, and/or your life changed as a result of the in-service? _____

3. In what ways can the contents of this in-service be generalized to other aspects of your life? _____

4. Do you think this in-service will have an effect on your performance in the classroom?

5. Explain what you would consider to be the most beneficial piece of this training. Why?

6. Would you recommend this in-service to other teachers? Why? _____

Appendix H

Participant Demographics Form

Directions: Please check all that apply.

Years of Teaching Experience

- 0-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 20 + years

Grade Currently Teaching

- Kindergarten
- First
- Second
- Third
- Fourth
- Fifth
- Other _____

Level of Education

- Bachelor Degree
- Master Degree
- PhD

Certifications Held

- National Board Cert.
- Other _____
- None

Lateral Entry

- Yes
- No

Appendix I

Outline of Face-to-Face PEST Sessions

| | |
|--------------|--|
| Session 1 | <p>Topic: Introduction to PEST-T/Social Cognitive Theory</p> <p>Objectives: To gain an awareness of the value of utilizing counseling theory in classroom; to learn principles of Social Cognitive Theory and how they apply to classroom situations; learn to analyze thoughts in terms of self-efficacy beliefs.</p> |
| Session 2 | <p>Topic: Rational-Emotive Philosophy and Theory</p> <p>Objectives: To gain awareness of knowing verses thinking; to understand the values and goals of REBT; to learn and apply the concepts presented related to rational and irrational beliefs.</p> |
| Session 3 | <p>Topic: Rational-Emotive Behavior Therapy</p> <p>Objectives: To become aware of the three major “musts” and their derivatives; to explore the belief-consequence connection; to learn the ABC Model of Emotional Disturbance; to apply the ABC Model to personal and professional situations.</p> |
| Session 4 | <p>Topic: The ABC Model Expanded</p> <p>Objective: To learn the expanded version of the ABC Model; to learn the value of disputing irrational beliefs; to acquire cognitive techniques and strategies for challenging irrational beliefs.</p> |
| Session 5 | <p>Topic: Disputing Irrational Beliefs</p> <p>Objectives: To learn additional cognitive challenges for irrational beliefs; to learn emotional and behavioral disputes; to apply strategies and techniques for challenging irrational beliefs.</p> |

Session
6

Topic: Classroom Applications of REBT

Objectives: To further learn how to apply REBT to classroom situations; to learn cognitive-behavioral strategies and techniques specific to classroom scenarios.

Session
7

Topic: PEST-T Review

Objectives: To understand concepts presented throughout the PEST-T training; to learn ways to address classroom situations through the REBT framework.

References (for Appendix I)

Bernard, M. E., & Wolfe, J. L. (2000). *The REBT resource book for practitioners*, 2nd Ed.

New York: Albert Ellis Institute.

Hefter, R. (1977). *Very worried walrus*. Austin, Texas: Holt, Rinehart, and Winston.

Walensky, S. R., DiGiuseppe, R., & Dryden, W. (1992). *A practitioner's guide to Rational-Emotive Therapy*, 2nd Ed. New York: Oxford University Press.

Appendix J

Outline of On-line PEST Sessions

- Session 1
Topic: Introduction to PEST-T/Social Cognitive Theory
Objectives: To gain an awareness of the value of utilizing counseling theory in classroom; to learn principles of Social Cognitive Theory and how they apply to classroom situations; learn to analyze thoughts in terms of self-efficacy beliefs.
- Session 2
Topic: The ABCs of Rational Emotive Behavior Therapy
Objectives: To learn and apply the ABC Model of Emotional Disturbance; to gain awareness of the power of rational and irrational beliefs; to understand the interconnectedness of thoughts, feelings, and behaviors.
- Session 3
Topic: Disputing Irrational Beliefs
Objectives: To learn to recognize irrational beliefs; to learn and apply strategies for challenging irrational beliefs related to personal and professional situations.
- Session 4
Topic: Irrational Beliefs vs. Rational Beliefs
Objectives: To gain further knowledge of beliefs and their impact on feelings and behaviors; to increase awareness of irrational and rational beliefs.
- Session 5
Topic: Rational Beliefs/Review
Objectives: To further develop and apply rational statements; to analyze thoughts related to classroom situations; to learn helpful, rational statements; to understand key concepts related to REBT and SCT and their application in the classroom.

References (for Appendix J)

- Bandura, A. (1997). *Self-Efficacy: The exercise of control*. New York: Freeman.
- Bernard, M. E., & Wolfe, J. (2000). *The REBT resource book for practitioners*. New York: Albert Ellis Institute.
- Ellis, A. (1994). *Techniques for disputing irrational beliefs*. [Brochure] New York: Institute for Rational Emotive Therapy.
- The ABC's of REBT. (n.d.). Retrieved September 15, 2006, from http://www.24-7help.com/about_rebt/ABCREBT.php

Appendix K

*Descriptive Statistics for Pretest-Posttest Measures of Teacher Efficacy
and Irrational Beliefs (Warren, 2010b)*

| | TSES | | | TIBS | | |
|--------------|------|--------|-----|------|--------|-------|
| | Mean | Median | SD | Mean | Median | SD |
| Face-to-Face | | | | | | |
| Pre- | 6.9 | 6.7 | .65 | 65.7 | 67 | 8.75 |
| Post- | 7.2 | 7.5 | .61 | 54.1 | 54 | 4.93 |
| On-line | | | | | | |
| Pre- | 6.7 | 6.7 | .64 | 64.0 | 62 | 15.76 |
| Post- | 7.0 | 7.1 | .65 | 52.6 | 57 | 10.16 |

Note. TSES=Teacher Sense of Efficacy Scale; TIBS=Teachers' Irrational Belief Scale.

Appendix L

*Qualitative Findings Including Themes, Categories, and Core Ideas
(Warren, in review)*

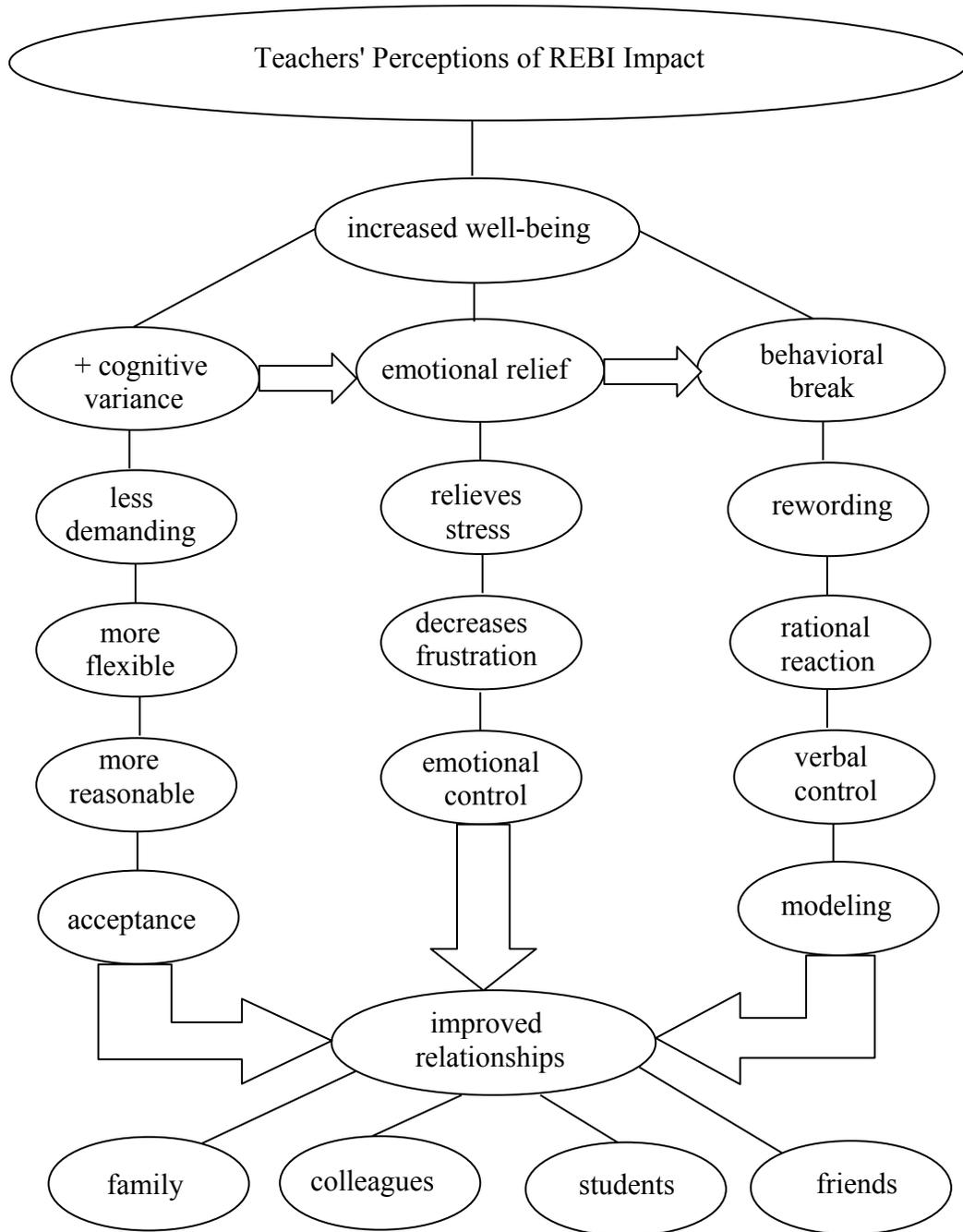


Figure. Teachers' Perceptions of REBI Impact: increased well-being (Theme 1) leads to improved relationships (Theme 2). Theme 1 comprises the categories (+ cognitive variance, emotional relief and behavioral break) and ideas that lead to improved relationships (Theme 2). + Cognitive variance leads to emotional relief and behavioral breaks.