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An Investigation To Determine The Perceptions Of Resilience In Educational And Business Leadership Personnel In Central Florida

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AN INVESTIGATION TO DETERMINE THE PERCEPTIONS OF RESILIENCE
IN EDUCATIONAL AND BUSINESS LEADERSHIP PERSONNEL
IN CENTRAL FLORIDA

By

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ABSTRACT

Leadership is a challenging task. Vibrant enduring leadership over time is a greater challenge. Cultivating "leaders that lasts" is the desire of this study. The purpose of this research was to determine the resiliency of leaders in Central Florida. Additionally, this study examined the resilience of educational leaders in Central Florida along with leaders from the business community. The analysis and comparison of the results revealed beneficial information regarding the factors that are substantial in resilient leaders and how these factors might be further cultivated.

Educational leaders were randomly selected from school administrators in the Central Florida region, as well as department leaders at two primary local universities. Participants from business were selected from a list of business leaders from the Rollins College Crummer Graduate School of Business MBA Alumni, as well as participants in the Palm Beach Atlantic University Executive Leadership series.

The study utilized the <u>Resilience Factor Inventory</u> (RFI) from Adaptive Learning Systems. The RFI is a valid 60-question on-line questionnaire that evaluates the four resilience factors identified in the Review of Literature: (a) realistic optimism, (b) emotional intelligence, (c) relational abilities, and (d) problem-solving abilities. Participants were invited to complete the RFI through a series of four emails explaining the study and the <u>Resilience Factor Inventory</u> with a sufficient response rate (83 leaders).

Analysis of the data revealed the following findings: (a) all three of the sampled leader populations were significantly above the national norm in resilience, with those in education the highest; (b) educational leaders, both Pre K – 12 and university leaders, were statistically higher in several resilience components, with emotional intelligence being a strong component in both educational groups; (c) leaders from the business realm were significantly higher in several resilience factors with their distinguish component being problem-solving; (d) while education leaders were strong in emotional intelligence, this population could develop their problem-solving capabilities; (e) in direct contrast, the business were strong in problem-solving, but could enhance their emotional competence; and (f) an examination of leaders who have served the longest have a statistically significantly higher relational abilities and realistic optimism suggesting that these two resilience factors would be important for longevity.

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To my bride of 385 months, Jenni, I could not have started, persevered, nor completed this journey without your support. As the dissertation editing process demonstrated, I would not be all that I am. Love you eternally!

Finally, thanks to the Lord for leading and sustaining me in this defining experience. May the process and results bring glory to You, as I and others become more resilient leaders.

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CHAPTER 1

PROBLEM STATEMENT AND ITS DESIGN COMPONENTS

Introduction

Leadership is a marathon, not a sprint (Kaplan, 2007). Resilience, the

capacity or reserve to deal with the complexities of life and leadership, is a

valuable hallmark of a leader. Leadership consultant McDargh defines resiliency

as "the capacity to cultivate strengths to positively meet the challenges of living:

the ability to bounce back from adversity while maintaining personal and

corporate integrity" (2002, p. 4). Harvard psychiatrist Vaillant metaphorically

stated resilience as "that which characterizes a twig with a fresh green, living

core: when stepped on, such a twig bends and yet springs back" (as cited in

Pulley, 1997, p. 3). Resilience represents a capacity to handle crisis.

Education professors Gu and Day identify resilience as "the capacity to

continue to 'bounce back', to recover strengths or spirit quickly and efficiently in

the face of adversity, is closely allied to a strong sense of vocation, self-efficacy,

and motivation to teach which are fundamental to a concern for promoting

achievement in all aspects of students' lives" (2007, p. 1302).

Resilient leadership can be cultivated. Brooks and Goldstein state, "Being

resilient does not mean a life without risks or adverse conditions, but rather

learning how to deal effectively with the inevitable stresses of life. Herein lies an important concept: learning" (as cited in Brody, 2005, p. 1).

Resilient leadership is crucial in both not-for-profits and the profit-seeking corporate realm. In educational settings, resilience is "using energy productively to achieve school goals in the face of adverse conditions" (Patterson, Collins, & Abbot, 2004, p. 3). Dean Becker, president and CEO of Adaptiv Learning Systems, which develops and provides resilience training, states, "More than education, more than experience, more than training, a person's level of resilience will determine who succeeds and who fails. That's true in the cancer ward, it's true in the Olympics, and it's true in the boardroom" (as cited in Coutu, 2002, p. 47). Additionally, if the resilience factor of leaders can be increased, they will be enabled to lead longer and contribute more to their schools, universities, and businesses.

Education is experiencing tremendous challenges in recruiting and maintaining teachers and teacher leaders, making resilience a significant focus of educational administration. Experts estimate a need in this decade for 2 million new teachers to meet the demand of increasing enrollments (Bobek, 2002). Yet, twenty-two percent of new teachers leave within their first three years, with 50% of educators leaving after five years with higher rates in impoverished communities (Wallis, Healy, Hylton, & Klarreich, 2008). Hoffman observes, "Given the increasingly demanding environment, universities that prepare administrators and the schools districts that employ administrators are striving to

create support mechanisms designed to increase administrator resiliency" (2004, p. 35)

Richman and Noble with WFD Consulting, a research, consulting, and implementation services firm, discovered that only 52% of employees strongly agreed they can manage the pressures of their job. Additionally, only 54% agreed they can maintain their performance during times of change, indicating that virtually one-half of all employees cannot handle the change that is rampant in the contemporary workplace. One-fourth indicated they are almost always mentally and physically drained at the end of a workday (Training, 2004).

The Work and Family Institute has identified seven qualities of peak performers. Those abilities include: (a) vision, (b) focus, (c) values, (d) passion, (e) emotional intelligence, (f) balance, and (g) resiliency (Estep, 2005).

Reivich and Shatte point out that resilience is more than helping one persevere through difficulties, but also can enable one to maximize their potential and reach out and assist others to grow similarly. They suggest four fundamental uses of resilience: (a) to *overcome* the obstacles of childhood, (b) to *steer through* the everyday adversities that befall us, (c) to *bounce back* from a major setback, and (d) to *reach out* to others "so that you can achieve all you are capable of" (2002, p. 15)

Brooks and Goldstein, who have studied and written extensively how to develop resilient children, have identified a "resilient mindset" common to resilient individuals. Those self-management characteristics include (a) a feeling of being in control of one's life, (b) knowing how to fortify one's "stress hardiness", (c)

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ability to be empathetic, (d) effective communication and other interpersonal capabilities, (e) solid problem-solving and decision-making skills, (f) the ability to establish realistic goals and expectations, (g) the capacity to learn from both success and failure, (h) being a compassionate and contributing member of society, (i) living a responsible life based on a set of values, and (j) feeling special (not self-centered) while helping others to feel the same (2003, p. 3).

Resilience must be cultivated and is "developed daily, not in a day" (Maxwell, 1998, p. 21). To expect to be resilient with no intentional nurturing is similar to developing a crisis management plan as a crisis strikes. Coutu states, "We train ourselves how to survive before the fact" (2002, p. 50).

Reivich and Shatte observe, "Resilient people have found a system – and it is a system – for galvanizing themselves and tackling problems thoughtfully, thoroughly, and energetically" (2002, p. 4). Flach states, "Resilience depends on our ability to recognize pain, acknowledge its purpose, tolerate it for a reasonable time until things begin to take shape, and resolve our conflicts constructively" (1988, p. 50). Resilient individuals have an ability to handle taxing challenges for their benefit.

Thomas and Bennis point out, "Experience itself in not as important as the insights extracted from experience…. Leaders engage in a complex and iterative process of giving meaning to their experiences. To paraphrase Aldous Huxley, 'Experience is not so much what happens to you as what you make of what happens to you'" (2002, p.39). This demonstrates the importance of correct thinking and perspective to be resilient.

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With the increased challenges, stresses, and longevity of leadership, the literature and research conclude that resilience is a valuable skill to possess. Leaders must have a healthy "resilience quotient" to thrive, not just survive, in their important leadership positions. Encouragingly, resilience can be cultivated.

Consequently, if factors can be identified that contribute to resilience and how to "learn" and cultivate resilience both in educational and corporate realms, the body of knowledge can be enhanced, leaders can be enriched, and enterprises can be more effectively led longer.

Purpose of the Study

This study sought to (a) determine the resiliency of leaders in education, both in Pre K – 12 and higher education, as well as in business enterprises in Central Florida, and (b) to compare and contrast the results from each population. Based on the collected data, this study sought to identify practices, disciplines, and recommendations for leaders to effectively cultivate resilience. Variations from the three populations were identified and incorporated into resulting recommendations.

Statement of the Problem

While there has been significant research and writing about resilience by Brooks and Goldstein, Reivich and Shatte, as well as others, there is insufficient data and insight available in the combined realms of resilience and leadership. This study attempted to (a) identify some of the unique factors of resilience

necessary for leaders, (b) examine the resiliency of local leaders in education as well as business, and (c) determine unique strategies to maintain that resilience in the challenges of leadership.

<u>Research Questions</u>

1. What is the "resiliency" of Pre K – 12 educational leaders in Central Florida on the four scales identified in the Review of Literature: (a) realistic optimism, (b) emotional intelligence, (c) relational ability, and (d) problem-solving ability?

2. What is the "resiliency" of higher educational leaders in Central Florida?

3. What is the "resiliency" of business leaders in Central Florida?

4. What differences, if any, exist between resilient leaders in education, both Pre K – 12 and higher education, and corporate business arenas?

<u>Definition of Terms</u>

For the purpose of clarification, the following definitions of terms are used throughout the study:

Resilience - is the capacity to deal with the complexities of life and leadership with vibrancy, including the ability to positively handle adversity. Longevity is an evidence of the ability to be resilient.

Leader - is a person who influences people to accomplish a purpose. For this study, one is considered a leader if she/he is currently in a position of supervision, managing other people.

Educational Leader - is an individual currently in a leadership role in Education, either in the public Pre-Kindergarten through 12th Grade school system or university or college realm.

Business Leader - is a leader in the for-profit business world, either in a small enterprise or a large corporation.

Central Florida - encompasses seven Florida counties in the Metro Orlando vicinity. Those counties are Orange, Seminole, Osceola, Lake, Volusia, Brevard, and Polk.

Resilient Leader - is someone who is currently in a leadership position (leading and managing people) and scores above the national norm on the Resilience Factor Inventory.

Study Design

Population

This study drew from three populations in Central Florida in 2007. These populations were educational leaders (both higher education and Pre K – 12) and business leaders. The sample for this study from the educational realm came from leaders in seven Central Florida school districts (Brevard, Lake, Orange, Osceola, Polk, Seminole, and Volusia Counties) and two institutions of higher learning (The University of Central Florida and Rollins College). These school

districts represent all the public schools systems in Central Florida. Their combined demographics include 70,499 employees, of which 38,734 are teachers, and 1,528 are building leaders. These building leaders comprise the Pre K – 12 population to be sampled.

The two institutions of higher education were selected for regional proximity and being representative of a large public research institution and a private college. This will provide a cross-section of size and category of colleges. The population was comprised of administrators and department leaders at the institutions. The number of higher educational leaders is approximately 866 individuals.

The sample of business leaders was initially gathered from the Book of Lists which is compiled annually by the Orlando Business Journal. The Book of Lists was selected to provide 70 lists of Central Florida's biggest industry players and their leaders in a variety of business realms including banking and finance, health care, and technology. The total number of enterprises listed is 1,155. The sample was randomly selected from the index at the conclusion of the compendium.

Top-level CEOs and Presidents, randomly selected from the Book of Lists, proved to be an excessive challenge, due to the difficulty obtaining email contact information, even after seeking assistance from the publisher of the Orlando Business Journal. Considering the expectation of a low response rate from this exclusive population, and in the spirit of resiliency, an alternative business population was selected. These business leaders came from two groups: the

Rollins College Crummer Graduate School of Business alumni network and participants in the Executive Leadership Training program provided by Palm Beach Atlantic University – Orlando. These 135 leaders from the Central Florida business community comprised the for-profit population sample.

Instrumentation

Leaders were surveyed using the Resilience Factor Inventory (RFI) (Appendix A). This questionnaire is based on seven dimensions of resilience, I addition to the respondents' self-evaluation of their personal resilience and current job satisfaction. The bulk of the questionnaire contains questions for the leader to self-rate using a Likert scale ("Strongly Agree" to "Strongly Disagree"). Demographic information is captured as the respondent registers to take the RFI.

The Resilience Factor Inventory was developed by Reivich and Shatte, psychology professors at the University of Pennsylvania. The RFI is proprietary to Adaptiv Learning Systems, is valid, and reliable. Research on the RFI "has established that the RFI does measure what it purports to measure – the individual's resilience as it predicts performance. The *criterion validity* of the RFI has been demonstrated in two ways – in tests of the *concurrent validity* and *predictive validity* of the measure" (Appendix B).   The authors of the RFI granted permission to use the Inventory, agreed to collect the data using Adaptiv Learning Systems pre-existing on-line collection process, and to provide the resulting responses. The Inventory is taken on-line via a secure website (Appendix C).

Data Collection

This questionnaire was distributed to the three (two education and one business) sample groups using the "Tailored Design Method" (TDM) (Dillman, 2000). This four-part process includes: (a) an Introductory Email (Appendix D), (b) an Invitation Email (Appendix E), (c) a First-Reminder Email (Appendix F), and (d) a Last-Reminder Email (Appendix G). Each follow-up piece was sent at appropriate intervals, approximately one week apart. At each step, participants were offered the option to be removed from the database, further email requests, and the research study.

The TDM was selected for its demonstrated effectiveness in generating a satisfactory response on the part of the respondents. TDM procedures "create respondent trust and perceptions of increased rewards and reduced costs for being a respondent, that take into account features of the survey situation, and that have as their goal the overall reduction of survey error" (Dillman, 2000, p. 4).

Data Analysis

Data analysis for this study was conducted using the statistical analysis software SPSS 16.0. Descriptive statistics have been reported for the entire responding sample, as well as each of the three sub-groups (education – Pre K-12, education – higher education, and business).

It has been anticipated that factors that contribute to resilience in leaders would surface from this study. T-tests were utilized and analyzed to discover if there were any statistically significant differences between the three groups for

these factors, as well as, any statistically significant differences based on length of time in leadership, ten years or greater.

<u>Assumptions of the Study</u>

1. It was assumed that surveyed participants provided honest responses to the survey instrument.

2. It was assumed that the survey participants and the researcher had the same understanding of the terminology used in the survey instrument.

3. It was assumed that the survey instrument utilized for this research was appropriate to obtain respondents' self-ratings.

4. It was assumed that the survey instrument was an appropriate instrument for identifying resilience characteristics.

5. It was assumed that the survey sample was representative of the populations of educational and corporate leaders in Central Florida.

<u>Limitations and Delimitations</u>

Limitations of the Study

1. Survey responses for the target population were gathered through an emailed questionnaire, and the response rate was dependent upon accurate contact information from the corresponding databases.

2. Any inferences drawn from this study should be carefully examined according to the particular characteristics of the subjects used and the conditions under which the study was conducted.

Delimitations of the Study

This study was delimited to include only individuals in the Central Florida region, who were in leadership positions for education and business enterprises in 2007.

Significance of the Study

While several researchers have studied resilience, few have focused their attention on the combined realms of leaders and resilience. This study has identified vital hallmarks of resilient leaders. Further, the research has surfaced strategies that have been effective for resilient leaders to cultivate longevity and effectiveness. These strategies can educate developing leaders in cultivating their resilience and enhancing their leadership. Educators may learn how to keep teachers in education longer than current rates of retention. Businesses can benefit by minimizing turnover in leadership and the resulting costs associated with change. The results of this research can assist current and future leaders in education, not-for-profit and business realms in enhancing the development of their own resilience and leadership.

Resilience plays a crucial role in an effective leader. The good news is that resilience can be developed and learned. A leader who is intentional about

developing resiliency will be well-positioned and well-grounded for a lifetime of leadership.

Organization of the Study

Chapter 1 of the study has introduced the problem, the research questions, the populations being studied, and the method used to obtain and analyze the data from the research. Chapter 2 includes a review of the literature as relevant to resilience. Chapter 3 details the methodology and procedures used to collect and examine the data. Chapter 4 describes the data and the results. Chapter 5 provides the findings, conclusions, implications, suggested practical applications, and future research recommendations.

CHAPTER 2

REVIEW OF LITERATURE

<u>Introduction</u>

The *Wall Street Journal* addressed the increasing issue of baby boomers and longevity (Petersen, 2005). Life expectancy is on the rise - a 50-year old female can expect to live to 82.1 and a 50-year old male is expected to live until 78.2. People are going to live longer, work longer, and, consequently, some may lead longer.

The dictionary definition of resilience is "the ability to recover quickly from illness, change, or misfortune; buoyancy" (American Heritage, 2000). Synonyms include elasticity, flexibility, life, spring, stretch, tenacity, and rigor. Edward defines resilience as "the ability of an individual to bounce back from adversity, persevere through difficult times, and return to a state of internal equilibrium or a state of healthy being" (2005, p. 142). From the nursing field, psychological resilience is defined as "the capacity to move on in a positive way from negative, traumatic, or stressful experiences" (Jackson, Firtko, & Edenborough, 2007, p. 1). Fullan (2005) has suggested resilience is perseverance plus flexibility.

While early writings suggested resilience was an inherent trait (Brody, 2005) which a person either possessed or did not, contemporary literature advocates viewing resilience as a continuum. "Resilience is not an either/or trait.

It's a continuum, and no matter where you fall on that continuum, you can increase your ability to rise to tomorrow's challenges with doggedness and spirit" (Reivich & Shatte, 2002, p. 5).

Brooks and Goldstein purport, "Resilience is the capacity to deal successfully with the obstacles in the road that confront us while maintaining a straight and true path towards life's goals" (2004, p. xi). Noted researcher Werner suggested resilience was "reserve capacity", which is "a mindset that helps us prepare for future adversity and enables the potential for change and continued personal growth throughout our lives" (as cited in Brooks & Goldstein, 2004, p. 3).

As Reivich and Shatte suggest, resilience can be increased through intentional learning and cultivation. Sankey states, "personal resilience, or the ability to remain strong amid ambiguity and change, is a skill that can be developed and honed" (2004, p.20).

Resilience can be applied to teams as well as individuals. Management and career consultant Vines states, "Managers should also be aware of this key asset in their companies and work to create an environment that fosters 'team resilience'" (as cited in Sankey, 2004, p. 20). Resilience in a leader is not an end in itself, but rather, a path to building capacity for work accomplishment. In educational settings, resilience is "using energy productively to achieve school goals in the face of adverse conditions" (Patterson et al., 2004). Resilience has short-term and long-term manifestations. In the short-term, resilience is the ability to perform vigorously through adversity and challenges. A long-term

dimension includes leading with longevity and vibrancy, not "sliding for home",

but "finishing strong". Consequently, resilience is both the capacity to deal with

the daily adversity and the reserve to endure a lifetime of challenges.

<p align="center">Why is Resilience Important?</p>

Guinness, Senior Fellow of the Trinity Forum, states, "I find it very

interesting that we celebrate the achievements of people like Moses, Sophocles,

Michelangelo, Churchill, Freud, Victor Hugo, and others who did incredible things

in their sixties, seventies, and eighties. But the fact is, *most people don't finish

so well*" (as cited in Buford, 2004, p. 246).

Considering the complexities of life, coupled with living longer, to be

resilient in the present and vibrant in future is challenging. Coutu states, "it

seems to me that the terrorism, war, and recession of recent months have made

understanding resilience more important than ever" (2002, p. 46).

Resilience can be a differentiator in the work place and an important

consideration for employers. Goleman suggests "emotional intelligence", of

which resilience would be a component, contributes to leadership effectiveness

and financial success, much more than IQ (Goleman, Boyatzis, & McKee, 2002).

Their research has shown that enhanced emotional intelligence competencies

can result in 78% to 390% increase in profits versus a 50% increase in profits

due to enhanced cognitive skills (Goleman et al., 2002). Gardner argues that IQ

only contributes 20% to one's success (Reivich & Shatte, 2002).

In a study of teacher resilience in urban schools, Patterson, Collins, and Abbot found "teacher burnout has exploded in urban schools due to a variety of factors, including legislated standardization and competency testing, decentralization and site-based decision making, and high-stakes testing with accountability" (2004, p. 3). Additionally, only 11% of public school teachers report being satisfied with their jobs (Bobek, 2002).

Hoffman (2004) cites multiple reasons that universities and school districts are extremely challenged and concerned regarding recruiting and retaining administrators at all levels of their organizations:

(a) Increased accountability expectations,

(b) Diminished or static levels of resources to support reform efforts,

(c) Greater administrator vulnerability to sanctions,

(d) Complex demands of government and the community,

(e) Minimal difference between teacher and administrator compensation when viewed on a per diem basis,

(f) The necessity for leaders to spend a great deal of time meeting the demands of the job,

(g) Media coverage of public education's occasional errors; little coverage of frequent successes, and

(h) Chronic stress.

These stresses of the fast-paced business world and constant change in the workplace call for resilience in employees at all levels. The International Labor Office (ILO) reports that 75% of Americans surveyed described their job as

stressful and felt that job pressure is steadily growing (International Labor Office,

1993). Burnout was identified as a principal driver of turnover by 75% of U.S.

workers in a 2006 survey by CareerBuilder.com (Crews, 2007). "Job burnout is a

response to work stress that leaves you feeling powerless, hopeless, fatigued,

drained and frustrated," according to Canaff (as cited in Lorenz, 2007, p.2). This

is the opposite of resilience.

Additionally, the ILO estimated the annual costs of job-related stress in the

form of increased absenteeism, reduced productivity, turnover, accidents,

compensation claims, high health insurance costs, and medical expenses was

approximately $200 billion in 1993 (International Labor Office, 1993). WFD

Consulting now estimates the cost of stress to American businesses in 2004 has

risen to $300 billion (Training, 2004).

Regarding stress and its ramifications, Walker surveyed 600 employees

and found:

(a) 46% felt "highly stressed,
(b) 25% believed they were suffering from stress-related illness,
(c) 69% experienced high stress and reduced productivity,
(d) 17% blamed stress for 10 or more days of absenteeism in 1990,
(e) 14% quit or changed jobs in the previous two years due to job
    stress,
(f) 66% blamed stress for exhaustion, anger, anxiety, or muscular
    pain, and
(g) 72% experienced three or more stress-related illnesses somewhat
    or very often (1991, p. 110).

The chronic stress of today's workplace contributes to a weakened workforce.

Medina, a developmental molecular biologist and brain expert, has studied the

impact of stress on the brain and observes,

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Our brains were built to survive in jungles and grasslands – we were built to handle acute stress…. Nowadays, our stresses are measured not in moments with mountain lions, but in months, as we deal with hectic workplaces, screaming toddlers, bad marriages, money problems. Our bodies aren't built for that (as cited in Coutu, 2008, p. 52).

Medina concludes, "Stress hurts the brain, and that inevitably hurts productivity in the workplace" (as cited in Coutu, 2008, p. 52).

In a 2007 survey by Watson Wyatt and WorldatWork involving 13,000 employees in 946 midsize to large companies around the world, 40% cited stress as the principal reason for leaving a job (Ruiz, 2007). This was particularly true among workers in the U.S., Canada, Europe, and the Asia-Pacific region. In Latin America, stress was ranked as the second greatest reason for leaving a job. This was in contrast to the employers' perspective who listed salary as the number one reason. Employers ranked stress as fifth as a motive for an employee leaving a job (Ruiz, 2007).

Employee turnover has increased significantly in recent years. The U.S. national median turnover rate across all industries and regions for 2000 was 15.6% (Nobscot, 2008). In 2006, this had increased to 23.4% (Nobscot, 2008). To a lesser degree, education has seen its annual turnover rate increase from 17% in 2000 to 18.6% in 2006, up from 18.3% just one year prior in 2005 (Nobscot, 2008). The rate is higher for new teachers, with a quarter to a third leaving within their first three years (Wallis et al., 2008). The departure rate is higher for urban school teachers who leave at a rate of 50% in their first five years (Wallis et al., 2008).

Leaving so early in their careers is detrimental to the interest of cultivating resilient teachers. "It takes at least two years to master the basics of classroom management and six to seven years to become a fully proficient teacher" (Wallis et al., 2008, p. 3). Consequently, cultivating educators who can be resilient through this initial season can help provide and maintain teachers, in quantity and quality, to serve the growing student enrollment, especially in light of the substantial needs which will be created by the retirement of baby-boomer educators.

Private industry's annual turnover rate was above the national average of 23.4% at 26.5% in 2006 (Nobscot, 2008). The cost of employee turnover is significant, estimated to be 150% of the employee's annual salary. Not all turnover is equal. The cost of losing a high-performing employee is three times greater than an average performer (Sullivan, 2007). For leaders, the attrition cost is significantly higher – 200% to 250% of annual compensation (Bliss, 2008).

On the positive side, O'Hara maintains while "the cost of stress is very high, the cure is remarkably inexpensive" and suggests "the remedy for stress reaches beyond the workplace and totally transforms your life" (1995, p. 25). Additionally, "preventative resilience" can significantly reduce costs through reduced absenteeism, greater productivity, and the reduce costs to recruit, train, and replace employees and leaders.

Cultivating resilience is in step with the "positive psychology" movement within the psychological arena. In 1998, Seligman, the president of the American Psychological Association, called on his contemporaries to counter the trend to

focus on the negative aspects of life, and to "create an empirical body of knowledge of optimal human functioning" (Reivich & Shatte, 2002), developing programs to build on strengths rather than rectifying weaknesses. Seligman encouraged focus on "the human strengths and civic virtues – courage, interpersonal skill, rationality and realism, insight, optimism, honesty, perseverance, capacity for pleasure, putting troubles into perspective, future mindedness, and finding purpose" (as cited in Reivich & Shatte, 2002). In the words of Gu and Day, "positive emotions fuel psychological resilience" (2007, p. 1304).

Hargreaves suggests that these positive emotions are the heart of teaching and resilience.

> Good teaching is charged with positive emotions. It is not just a matter of knowing one's subject, being efficient, having the correct competences, or learning all the right techniques. Good teachers are not just well-oiled machines. They are emotions, passionate beings who connect with their students and fill their work and their classes with pleasure, creativity, challenge and joy (as cited in Gu & Day, p. 1304).

Nieto observed the "emotional stuff" was what provided perseverance in a study of high school teachers (Gu & Day, 2007).

Consistent with positive psychology contributing to longevity in the workplace, Rath and Clifton point out that by practicing the simple leadership skill of "positive interactions," a leader can distinguish himself/herself from most managers and contribute to resilience in their workers. The Gallup Organization has discovered that 65% of workers indicate that they never hear a word of encouragement from their supervisors in the course of a year and the number

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one reason people leave their jobs is because they do not feel appreciated (Rath & Clifton, 2004).

<center>Can Resilience be Learned or Developed?</center>

Many of the early theories regarding resilience focused on the role of genetics. Currently, "an increasing body of empirical evidence shows that resilience – whether in children, survivors of concentration camps, or businesses back from the brink – can be learned" (Coutu, 2002, p. 48). Goleman points out, "research and practice clearly demonstrate that emotional intelligence can be learned" (1998, p. 97). Development does need to be intentional. "Building one's emotional intelligence cannot – will not – happen without sincere desire and concerted effort. A brief seminar won't help; nor can one buy a how-to manual" (Goleman, 1998, p. 97).

Werner and Smith, authors of the most extensive resiliency study ever conducted in this country, suggest that what we need is "a corrective lens – an awareness of the self-righting tendencies that move children toward normal adult development under all but the most adverse circumstances" (as cited in Henderson, 1998, p. 15). While all may be born with an innate biological aptitude for resilience, Gu and Day conclude, "the capacity to be resilient in different negative circumstances, whether these be connected to personal or professional factors, can be enhanced or inhibited by the nature of the setting in which we work, the people with whom we work and the strength of our beliefs and aspirations" (2007, p. 1306).

Additionally, Higgins (1994) points out that resilience qualities can be learned or acquired. Resilience can be "achieved through providing relevant and practical protective factors, such as caring and attentive educational settings, positive and high expectations, positive learning environments, a strong supportive social community, and supportive peer relationships" (Gu & Day, 2007, p. 1305).

Reivich and Shatte, psychology professors at the University of Pennsylvania, have developed a "Resilience Quotient" evaluation, coupled with training in seven skills designed to bolster resilience. Reivich and Shatte trained customer service representatives for Fortune 100 companies with their resilience skills training. Three months after the training, those trained outperformed the control group in the four most important performance elements of their jobs. Similarly, in another study, Reivich and Shatte provided their training to under-performing sales and office managers. Within one month, the newly equipped employees were outperforming their peers by 50% in one performance measure and 100% in another measure. Reivich and Shatte conclude, "Resilience matters and it can be learned" (2002, p. 49).

Brooks and Goldstein suggest the primary lesson regarding resilience is "to recognize that we are the authors of our lives" (as cited in Brody, 2005, p. 1). The success lies in replacing what Brooks and Goldstein call "negative scripts" that may have been written in childhood, but are not cast in stone, with more positive scripts. Additionally, Brooks and Goldstein state, "We must not seek our happiness by asking someone else to change" (as cited in Brody, 2005, p. 2).

In <u>Learned Optimism</u>, Seligman presented research that indicates that optimism can be learned. Seligman suggests this can be accomplished by listening carefully to our internal dialogue and challenging negative beliefs (Seligman, 1990). Supporting the principle that resilience is a skill that can be cultivated, Vines states, "The key thing for people to realize is that you can create strategies to develop greater resilience. Resilience is often the outcome of what you choose to do" (Sankey, 2004, p. 20).

Developing resilience can be accomplished by anyone, at any age. "Children learn to be resilient when parents and guardians enable and encourage them to figure out things for themselves and take responsibility for their actions" (Brody, 2005, p. 2). Research done by Vaillant, the director of the Study of Adult Development at Harvard, demonstrated "within groups studied during a 60-year period, some people became markedly more resilient over their lifetimes" (Coutu, 2002, p. 48).

The evidence supports the capacity to develop resilience is less a product of genetics, and more a result of a person interacting with her/his environment. Coutu states that there is evidence that "unresilient people more easily develop resiliency skills than those with head starts" (2002, p. 50), indicating that even those with starting with a "resiliency deficit" can make strides in cultivating resilience.

<u>Hallmarks of Resilient People</u>

Hippe states, "while we all have some resiliency, it is a quality not equally evident in all people" (2004, p. 240). In a study of children, Hippe (2004) identified five hallmarks which characterize resilient children: (a) self-awareness, (b) effective problem solving skills, (c) the ability to communicate well, (d) the ability to demonstrate empathy toward others, and (e) a hope for the future.

Flach, a psychiatrist and early author on resilience, observed several attributes of resiliency emerge from his studies. Included were:

> (a) a strong, supple sense of self-esteem,
> (b) independence of thought and action, without fear of relying on others or reluctance to do so,
> (c) the ability to give and take in one's interactions with others, and a well-established network of personal friends, including one or more who serve as confidants,
> (d) a high level of personal discipline and sense of responsibility,
> (e) recognition and development of one's special gifts and talents,
> (f) a willingness to dream,
> (g) a wide range of interests,
> (h) a keen sense of humor,
> (i) insight into one's own feelings and those of others, and the ability to communicate these in an appropriate manner,
> (j) a high tolerance of distress, and
> (k) focus, a commitment to life, and a philosophical framework within which personal experiences can be interpreted with meaning and hope, even at life's seemingly more hopeless moments (1988, p. 30).

These qualities reveal strong self-efficacy and reservoir for future challenges.

Henderson believes "that some characteristics of resiliency can be found in everyone – if we look for them with the same meticulousness we use in looking for risks" (1998, p.16) and advocates focusing on the resiliency factors as much, if not more than, the "at risk" factors. Resilient "protective factors" include:

> "gives of self in service to others; uses life skills (good decision making, assertiveness, impulse control, problem solving), sociability, sense of

humor, internal locus of control, perceptiveness, autonomy, positive view of personal future, capacity for and connection to learning, is good at something, and personal faith in something greater – spirituality" (Henderson, 1998, p. 16).

Gu and Day (2007) observed that resilience is multi-faceted, identifying two "professional assets" of resilient teachers – a sustaining sense of vocation and a developing sense of efficacy. When educators viewed themselves as being involved in a "vocation" rather than a "profession", they had a "sense of mission" that sustained them and provided "determination, courage, and flexibility, qualities that are in turn buoyed by the disposition to regard teaching as something more than a job, to which one has something significant to offer" (Gu & Day, 2007, p. 1311). "In contrast to 'profession' which has an emphasis on public recognition and larger rewards, the language of 'vocation' takes us 'inward' into the core of the (teaching) practice itself" (Hansen, 1995, p. 8).

Regarding self-efficacy, Bandura points out, "When faced with obstacles, setbacks, and failures, those who doubt their capabilities slacken their efforts, give up, or settle for mediocre solutions. Those who have a strong belief in their capabilities redouble their effort to master the challenges" (2000, p. 120). A resilient educational leader will have a robust sense of efficacy that will enable the leader to persevere through problems.

Trauma expert Herman distilled three hallmarks of resilient people derived from here working with individuals afflicted with Post-traumatic Stress Disorder (PTSD), a serious psychological disorder affecting many following severe trauma. Those characteristics are: (a) a task-oriented coping style, (b) a deeply held belief in their ability to control the outcomes of their lives, and (c) knowledge

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how to use their connections to others as a way to cope (Reivich & Shatte, 2002, p. 60). Herman notes that highly resilient people are able to connect with others through purposeful action. "It's well known that social support reduces the psychological distress following trauma and helps people bounce back from events that threaten to stop them" (as cited in Reivich & Shatte, 2002, p. 60). Resilient children possess an ability to enlist the assistance of adults to help them persevere (Coutu, 2002). Vanderpol recognizes "resilient people have the ability to attract help and support without becoming passive or excessively dependent" (as cited in Sorohan, 1993, p. 13).

Along with having strong connections to others, Reivich and Shatte (2002) identify four additional hallmarks of resilient people. Resilient people are: (a) able to monitor and regulate their own emotions, as well as, monitor the emotional states of others, (b) able to stay focused on solving problems, (c) high in self-efficacy, and (d) able to see challenges as opportunities, with a willingness to take risks.

Optimism, a crucial element to resilience "arises from our anticipation of a positive outcome as well as our ability to help produce that outcome" (McDargh, 2002, p. 4). Resilient people possess a "realistic optimism" rather than being unrealistically, or "overly optimistic". Realistic optimism is "the ability to maintain a positive outlook in the face of adversity, without denying reality and the constraints posed by reality" (Patterson & Kelleher, 2005, p. 11). "A resilient person has a realistic grasp of the problem at hand" (Sorohan, 1993, p. 13). Researcher and author Collins identifies the "Stockwell Principle" (named for

Admiral James Stockwell who survived as a POW in Viet Nam):   great

companies are not filled with optimistic people with "rose-colored" thinking, but

rather those "great" companies are led by resilient leaders who had "very sober

and down-to-earth views of those parts of reality that matter for survival" (Coutu,

2002, p. 48). Stockwell observed that the POWs who attempted to bolster their

resolve by "optimistically" believing they would be released imminently, ended up

collapsing when that hope was not met (Collins, 2001). A resilient leader

"possesses a staunch acceptance of reality; a deep belief, often buttressed by

strongly held values, that life is meaningful; and an uncanny ability to improvise"

(Coutu, 2002, p. 48). This realistic optimism allows a resilient individual to face

the future appropriately.

Closely tied to realistic optimism are hope and a vision for the future.

Hope is not an unrealistic expectation of the future. Philosopher Zinn wrote, "to

have hope, we do not need certainty, only possibility" (as cited in McDargh, 2002,

p. 4). Resilient people believe in the future. For example, resilient children

believe that despite their current challenges, better days lay ahead (Sorohan,

1993).

"Realistic" thinking applies not just toward the future, but also regarding a

leader's self-perception. Resilient people possess self-awareness. They are

aware of their strengths and limitations and have empathy for others (Hippe,

2004). A resilient leader has an appropriate self-identity. "A resilient person sets

clear boundaries between her- or himself and others, knowing which thoughts,

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feelings, and reactions are his or her own and which are someone else's"

(Sorohan, 1993, p. 13).

Emotional intelligence and the ability to know, own, and manage one's

emotions is another hallmark of a resilient leader. "A resilient person is aware of

and tolerates her or his own feelings. When they feel sad, angry, ashamed or

afraid, they can admit those feelings – at least to themselves – without resorting

to drinking, drugs, becoming violent, or engaging in other damaging behaviors.

Such behaviors only make problems without solving them" (Sorohan, 1993, p.

13). Equipped with self-awareness and self-management, resilient leaders are

people of action. "Resilient people take responsible action to solve problems,

without self-pity or manipulation" (Sorohan, 1993, p. 13). Taking a step of action

actually contributes to increased resilience. Additionally, resilient leaders have

appropriate ways to refresh and restore themselves in the midst of adversity.

"Resilient people have the ability to "let up" on themselves – they find ways to

play, to relax, and to be nurtured and refreshed, despite their troubles" (Sorohan,

1993, p. 13). Resilient individuals are able to enrich their lives with other

dimensions to enable them to persevere through difficulties.

The Hardiness Institute was established on principles learned following a

study at Illinois Bell during one of the greatest divestitures in history. Following

the corporate break-up, two-thirds of the Illinois Bell employees showed

significant wellness breakdown. The remaining third "maintained health and

performance and actually thrived" on the change. Studying the "healthy" third,

Maddi, a University of California, Irvine psychology professor, identified and categorized three characteristics of "Hardiness":

(a) HardiAttitudes™, which are "powerful attitudes about self, the world, and the interaction between the two that motivate and enable one to engage in performance, leadership, and health enhancing thoughts and behaviors."

(b) HardiCoping™, which are "coping habits that helped them to turn adversity to advantage by broadening their perspective and understanding of the stressful change."

(c) HardiSocialSupport™, which is engaging in "a specific pattern of giving and getting social and personal assistance and encouragement to, and from, the work community, contributing strongly to the strengthening of the HardiAttitudes™ and HardiCoping™" (Hardiness Institute, 2005).

In their qualitative research study, Patterson, Collins, and Abbot (2004), identified several common hallmarks of resilient teachers and teacher leaders in urban schools. These common characteristics include:

(a) Acting from a set of values that guide their professional decision-making.

(b) Placing a high premium on professional development and finding ways, often outside the district, to get what they need.

(c) Providing mentoring and leadership to others.

(d) Staying focused on students and their learning.

(e) Are not victims – they take charge (to solve problems).

(f) Having friends and colleagues who support their work emotionally and intellectually.

(g) Are not wedded to one best way of teaching and are interested in exploring new ideas.

(h) Knowing when to get involved and when to let go.

(i) Recognizing that bureaucratic demands can sap their energy for teaching and find ways to avoid it.

Similarly, in a study of leaders involved in ministry, Clinton and Leavenworth (1994) cited six characteristics of those "finishing well": (a) a vibrant relationship with God, (b) a learning posture, (c) Christ-like character, (d) maintenance of convictions and beliefs, (e) active in accomplishing God's purposes, and (f) possessing a sense of destiny.

<u>How is Resilience Developed?</u>

Reivich and Shatte (2002) identify that accurate thinking is the key to enhancing one's resilience. This is due to a principle of cognitive psychology that thoughts "cause emotions, and emotions matter in determining who remains resilient and who succumbs." Educational professors Patterson and Kelleher claim, "It's not so much what you do. It's how you think about what you do that makes all of the difference. Your interpretation of the reality of the storm and your interpretation of your future after the storm strongly predict your ability to come through the storm in a better place" (2005, p. 10).

McDargh advocates appropriate "head talk" calling for critical exploration of our thinking process. "Are we stuck in out-moded patterns of behavior that no longer serve us? What assumptions are we making and what actions can we take if the assumptions are confirmed" (2002, p. 4)? This is a call for evaluation of assumptions and thought processes leading to more resilient thinking patterns.

Reivich and Shatte offer several "thinking" skills, including "learning your ABCs" which examines the "Adversity – Beliefs – Consequences" thought process. Challenging experiences (adversities) and one's responses (consequences) to those experiences reveal much about her/his "beliefs" and thoughts. Identifying these beliefs can enable a person in "avoiding thinking traps" in the realm of blame and fault when something adverse occurs, as well as "detecting icebergs" (significant beliefs "below" the surface that cause reactions that are consistent with one's values). Additionally, Reivich and Shatte (2002) instruct in "challenging beliefs" and "putting it in perspective", teaching one how to test the accuracy of his/her beliefs about problems and how to apply solutions that work.

In their ten keys to resilient living, Brooks and Goldstein identify several "thinking" components to developing resilience. They advocate "changing the words of life and rewriting your negative scripts." Additionally, Brooks and Goldstein suggest "choosing the path to become stress hardy rather than stressed out" (2004, p. 53) ensuring that one is committed to the important things in one's life. "Viewing life through the eyes of others", as well as "accepting

oneself and others" parallel Covey's "Seek first to understand, and then be understood" (Covey, 1989).

The Hardiness Institute's twelve-year longitudinal study of employees at Illinois Bell Telephone who experienced upheaval through the break-up of AT & T surfaced three attitudes prevalent in the resilient group who thrived following the corporate change. The study identified attitudes of commitment, control, and challenge. Strong commitment was demonstrated in viewing their work "as important and worthwhile enough to warrant full attention, imagination, and effort". Control contributed to positively influencing the outcomes of the changes going on around the resilient person. Challenge embraces life's stressful changes and views them as providing new pathways for a bright future (Maddi & Khoshaba, 2005).

Along with cultivating one's "resilient thinking" skills, it is important to developing an appropriate capacity for relationships, both supportive and contributing. Werner and Smith's research on resiliency discovered, "When asked what helped them succeed against the odds, resilient children, youth, and adults overwhelmingly and exclusively gave the credit to members of their extended family, to neighbors and teachers, to mentors and voluntary associations and church groups." (as cited in Brooks & Goldstein, 2004, p. 262). Sankey (2004) also advocates building relationships with comrades and avoiding isolation. "Respected peers and colleagues can offer sound advice and maintaining your network of support is essential. Don't wait for a crisis to seek support" (Sankey, 2004, p. 20). Brody states, "Take a long, hard look at the

people in your life and consider abandoning friends who drag you down or reinforce your negative scripts" (2005, p.2). These relationships should be should be enhancing and not "draining".

Anderson (2003) also purported that resiliency is advanced by "health-enhancing social relationships", citing the Berkman study of over 4000 people ages 30 to 69 from 1965 – 74. The study revealed that people with a smaller social network were twice as likely to die early than people whose social network was larger. Further,

> "the link between social network and survival was evident even after taking into account traditional risk factors such as age, gender, race, smoking status, health-care use, and physical activity. In fact, the size of the participants' social networks was a more powerful predictor of death than were more traditional risk factors" (Anderson, 2003, p. 107).

Citing multiple studies, Anderson demonstrated that relationships predict longevity, as women with smaller social networks had a mortality rate double that of those high in social ties. For males, the mortality rate was two to three times higher if those men had fewer social relationships (Anderson, 2003).

Anderson (2003) also showed a strong association between significant physical problems and social relationships. Relationships predicted (a) heart-disease deaths, (b) heart-attack recovery, (c) survival from coronary artery disease, (d) protection against the common cold, (e) progression from HIV to AIDS, (f) hypertension, (g) arteriosclerosis, (h) immune-system status, and (i) stress-hormone levels. These physical concerns are certainly life-altering, if not life-threatening, and would play a significant role in terms of a person's resilience and longevity.

Relationships benefiting resiliency must also be outward-focused and contributing to others, for example, through mentoring or coaching. "Resilient teachers and teacher leaders reported seeing themselves as responsible for providing leadership to others in their schools" (Patterson et al., 2004, p. 9).

An additional component to developing resiliency is maintaining a "learning posture". Clinton and Leavenworth state, "The single most important antidote to plateau is to have a well developed learning posture" (1994, p. 10). This learning posture is particularly important for resilient educators. "To develop resilience, new teachers must be lifelong learners, willing to venture into areas that may challenge their current views of themselves and their practices" (Bobek, 2002, p. 203). Patterson et al. (2004) found that 25% of resilient educators created their own professional development plan. "Resilient teachers seek opportunities to learn and are willing to search until they find those opportunities in either formal or informal settings" (Patterson et al., 2004, p. 7).

In order to be a resilient superintendent, Fullan calls for "deep learning." "Sustainability in my definition requires continuous improvement, adaptation and collective problem solving in the face of complex challenges that continually arise. Deep learning is essentially a matter of ambitious and important goals" (Fullan, 2005, p. 17).

Resiliency expert Henderson has identified four basic principles that add the power of "protective factors" to peoples' lives (Henderson, 2007). Those factors are:

(a) Communicate "the resiliency attitude" – that is, cultivating an attitude that a leader has what it takes to get through the difficulty.

(b) Adopt a "strengths perspective." – "The keystone of high achievement and happiness is exercising your strengths rather than focusing on your weaknesses" (Seligman, 2001).

(c) Surround each person with all the elements of the "resilience wheel." The "resilience wheel" is Henderson's framework of protective elements that research has indicated are crucial for resilience. Those components include: (i) provide care and support, (ii) set high, but realistic expectations for success, (iii) provide opportunities for "meaningful contribution" to others, (iv) increase positive bonds and connections, (v) set and maintain clear boundaries, and (vi) develop needed life skills.

(d) Give it time. Cultivating resilience is not instantaneous and requires time.

Thomas and Bennis advocate "crucibles for learning," which are "intense and meaningful experiences that leaders continually draw from to gain leadership insight" (2002, p. 3). They identify five different crucible experiences: (a) mentoring relationships, (b) enforced reflection, (c) insertion into foreign territory, (d) disruption, and (e) loss.

A resilient leader cannot neglect their physical and mental health. "Physical and mental health are the foundation of resilience because they allow your body to perform at a higher level" (Sankey, 2004, p. 20). Corporate fitness

expert, Tyler Chisholm, states "If you ignore nutrition, you are ignoring your ability to function effectively" (as cited in Sankey, 2004, p. 20). Wellness in the workplace expert, O'Hara advocates, "Tend to your body, Observe your mind, and Expand your spirit" (1995, p. 35).

Regarding mental health and resilience, Anderson (2003) includes the important element of "emotional disclosure", the revealing and processing of personal trauma, in the interest of increasing longevity. According to Anderson, the high cost of "concealment and avoidance" of trauma includes (a) higher heart rates and blood pressure, (b) greater biological responses to stress, (c) elevated cholesterol, cortisol, and glucose levels, and (d) reduced immune-system functioning. Disclosure "counteracts the negative effects of thought suppression, emotional inhibition, and concealment" by processing and changing thinking and language. This processing helps to develop meaningful stories about one's traumatic experiences (Anderson, 2003). Anderson (2003) cites the "remarkable benefits of opening up" including: (a) improved mood, (b) improved perceived health, (c) decreased doctor visits, (d) improved immune systems, and (e) improved grade point average in students.

Additionally, disclosure affects reemployment following job loss. In a study involving men who had been laid off and unemployed for four months, a portion of the men were assigned to write for thirty minutes for five days regarding their thoughts and feelings regarding their job loss. A second group "journalled" about what they did during the unemployment period and the third group did not write at all. All men went on the same number of re-employment

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interviews. From the first group 27%, had jobs after 3 months, compared with 5% for the other two groups. Several months later 53% of first group had jobs vs. 18% of the other groups. The study's author, Pennebaker, observed, "Those who had written about their thoughts and feelings… were more likely to have come to terms with getting laid off and, in the interview, come across as less hostile, more promising candidates" (as cited in Anderson, 2003, p. 110).

Anderson (2003) also purports that faith and meaning contribute to longevity and resilience. Religious participation correlates with lower blood pressure and is associated with fewer cases of depression. Additionally, involvement in religion can predict: (a) illness, (b) emotional well-being, (c) immune system status, (d) use of hospital services, and (e) better adjustment to transplant surgery.

Most significant, participation in religious activities predicts longevity. In a study published in 2000 by McCullough, which analyzed the data from twenty-nine studies involving over 125,000 participants, the researchers found those who had strong religious involvement were nearly 30% less likely to have died during the course of the study. Additionally, those who attended church just once a week had a 15% higher rate of death over those who attend more than once a week; those who attended less than once a week had a 31% higher mortality rate; and those who never attended church had an 87% higher death rate (Anderson, 2003).

Patterson et al. (2004) also found significant religious participation among resilient teachers and teacher leaders in challenging urban schools. Unsolicited,

75% of those interviewed identified their personal spirituality as a source of

resilience, turning to a "higher power" for strength on difficult days. "Whether

Baptist or Buddhist, working with urban schools requires that 'we go inside

ourselves and find that part within us that is more than flesh and bones'"

(Patterson et al., 2004, p. 8).

Edward provided a qualitative study of crisis care mental health clinicians

supported several of these ideas for cultivating resilience. Eight theme clusters

resulted:

- (a) Having non-work related support or tasks can reduce anxiety and bolster resilience.
- (b) Resilience is fostered through professional development.
- (c) Resilience is experienced when you have insight into the work you do.
- (d) Resilience is the result of using creativity, flexibility and humor in your work.
- (e) Resilience is promoted through having a sense of faith, advocating for others, and having a sense of morality.
- (f) Resilience is a product of experience, clinical expertise, a sense of autonomy, responsibility and confidence.
- (g) Resilience is promoted through support at work.
- (h) Resilience in crisis care is associated with keeping work separate from home (2005, p. 146).

These clusters were distilled down to four themes: (a) Sense of Self, (b) Faith

and Hope, (c) Having Insight, and (d) Looking after Yourself.

From their research, Australian nursing educators Jackson, Firtko, and

Edenborough (2007) propose five self-development strategies to cultivate

resilience in nurses:

- (a) Building positive nurturing professional relationships and networks.

- (b) Maintaining positivity.

- (c) Developing emotional insight.

(d) Achieving life balance and spirituality.

(e) Becoming more reflective.

These strategies parallel several common realms suggested by the literature: relational support, realistic optimism, and cultivating emotional intelligence.

The Importance of Optimism

A frequently mentioned element of resilience was optimism; not "Pollyanna" optimism, but a "realistic optimism". This capacity includes how a leader views their world and affects their responses to their situations. "How you interpret the current and future reality of the storms you face and your ability to influence the future or life after the storm determines your level of optimism or pessimism" (Patterson & Kelleher, 2005, p. 11). Their research revealed that optimistic school leaders:

a) Have better social relationships, as well as higher levels of physical health, academic and athletic performance, recovery from illness and trauma, pain tolerance, self-efficacy, and flexibility in thinking.

b) See adversity as a challenge, transform problems into opportunities, persevere in finding solutions to difficult problems, maintain confidence, and rebound quickly after setbacks.

c) Are easily motivated to work harder, have higher morale, set challenging goals, see personal setbacks as temporary, and tend to feel upbeat and invigorated both physically and emotionally.

Anderson (2003) defines optimism as "a person's expectations about the future (dispositional optimism) and explanations about the past (explanatory style)". Realistic optimism addresses right thinking about both the past adversity, and one's future expectations, regarding that challenge. "Both types of optimism are known to defuse negative emotions and heighten positive emotions" (Anderson, 2003, p. 241).

Seligman and his associates observed that one's explanatory style – the routine way of interpreting difficult occurrences (not the occurrences alone) is what leads a person down the path to helplessness and depression (Anderson, 2003). Seligman identifies three components of one's explanatory style:

(a) <u>Personal responsibility</u> is the degree of self-blame. "Does the bad event reflect some personal flaw, or is it purely circumstantial?" Patterson and Kelleher (2005) offer the query, "What are the causes of the current adversity, including my own contribution?"

(b) <u>Permanence</u> is how long one expects the circumstances created by the bad event to last. "Will it be chronic or short-lived?"

(c) <u>Pervasiveness</u> reveals how all consuming one anticipates the event to be. "Is it going to affect how one experiences other things in life, or will one's feelings be confined to this narrow incident?"

Anderson (2003) suggests optimists are more likely to say, "It's the circumstances," "It's temporary," and "It doesn't affect anything else in my life." Pessimists are more likely to say, "It's because of me" or "It's my fault," "It's permanent or at least long-lasting," and "This messes up everything."

Explanatory style is associated with depression in adults and can predict depression in children. Additionally, explanatory style can predict illness, immune status, and longevity. In a 30-year study of 99 Harvard University graduates, researchers found individuals with a pessimistic explanatory style for negative events were significantly more likely to suffer diagnosable physical illnesses, over the duration of the study, than those with more optimistic styles. Men with more optimistic explanatory styles had significantly higher levels of pulmonary functioning, than did the more pessimistic men. It was demonstrated that the decline in pulmonary function was substantially less in optimistic men than in pessimistic men (Anderson, 2003).

Peterson developed the Content Analysis of Verbatim Explanation (CAVE) technique, analyzing speeches or writings to discern optimistic or pessimistic explanatory styles. Researchers analyzed the nominating speeches for the Democratic and Republican presidential candidates from 1900 to 1984 using the CAVE method. Peterson found "the candidates whose speeches were judged as having more pessimistic statements actually had lost 9 of 10 elections, even though the people assessing the speeches did not know whose (speeches) they were" (as cited in Anderson, 2003, p. 36).

The two components – explanatory style (past) and expectations (future) are differentiators for optimism and building resilience. Patterson and Kelleher identified the following distinctions in categorizing four types of perspectives:

   (a) Unrealistic pessimists have a negative explanatory style of past events

        and a negative expectation for the future. These individuals "have a

pervasive, rather permanent negative interpretation of what's going on and they have little confidence that anything good will come out of adversity."

(b) Realistic pessimists possess a realistic view of the past, but negative expectation of the future. These "have a reasonably accurate interpretation of reality, but they take a dim view of the future and do not think it is worth the effort on their part."

(c) Unrealistic optimists have an unrealistic perspective of the past, which affects the future. Unrealistic optimists "underestimate the risks posed by the current reality, and assume, without a doubt, they can make the best-case outcomes happen in the future."

(d) Realistic optimists possess a realistic explanatory style and have an optimistic view of the future. Realistic optimists "interpret past and current reality differently than their colleagues." They want to know how they contributed to the problem, trying hard to gather accurate information to fully understand past and present reality, as well as "work hard to accurately assess the risks posed by the adversity." Realistic optimists ask "What is my ability to influence future events?" and "What are my expectations for future success?" Realistic optimists query, "What is the focus of my future efforts?" and conclude, "Good things may happen, but I will have to work at it. So I will do whatever is within my influence to make the expectations reality. And the likelihood of success is worth the effort" (2005, p. 13).

Patterson and Kelleher provide their insights in a model for leaders and optimism reflected in Figures 1 through 5. Figure 1 captures the four leader types' view of what causes their current circumstances. A realistically optimistic leader recognizes the appropriate contribution that a leader has in their leadership situation. The realistic optimist understands that they have some involvement, but cannot control every contributing factor.

Figure 1: A Leader's Scale for Optimism and Pessimism: Interpretation of Current Reality - Causes of Current Reality

Unrealistic Pessimist	Realistic Pessimist
Finds other people and forces totally at fault	Accepts some responsibility, but primary cause is others
Realistic Optimist	Unrealistic Optimist
Accepts responsibility for their contribution to the current reality	Assumes they know the causes, but do not invest the time to accurately assess reality
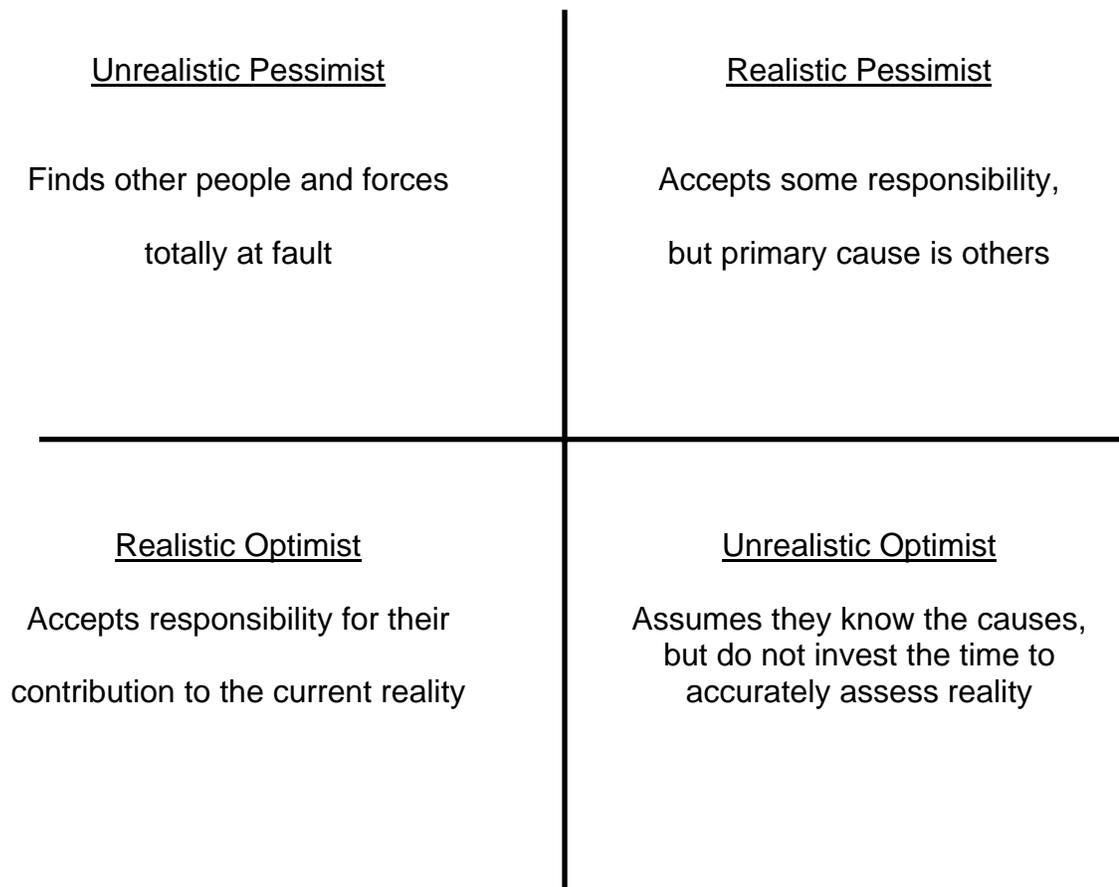
(Patterson & Kelleher, 2005, p. 16)

Figure 2 outlines the various leaders' interpretation of risk in their present reality. The realistic optimist appropriately appraises the risk, neither denying or exaggerating risk.

Figure 2: A Leader's Scale for Optimism and Pessimism: Interpretation of Current Reality - Risks Posed by Current Reality

<u>Unrealistic Pessimist</u> Greatly overestimates the risks caused by adversity	<u>Realistic Pessimist</u> Understand the risks and place undue weight on the negative
<u>Realistic Optimist</u> Accurately assess the risks by striving to have enough data to judge	<u>Unrealistic Optimist</u> Discount the risks and refuse to see how they may jeopardize the future
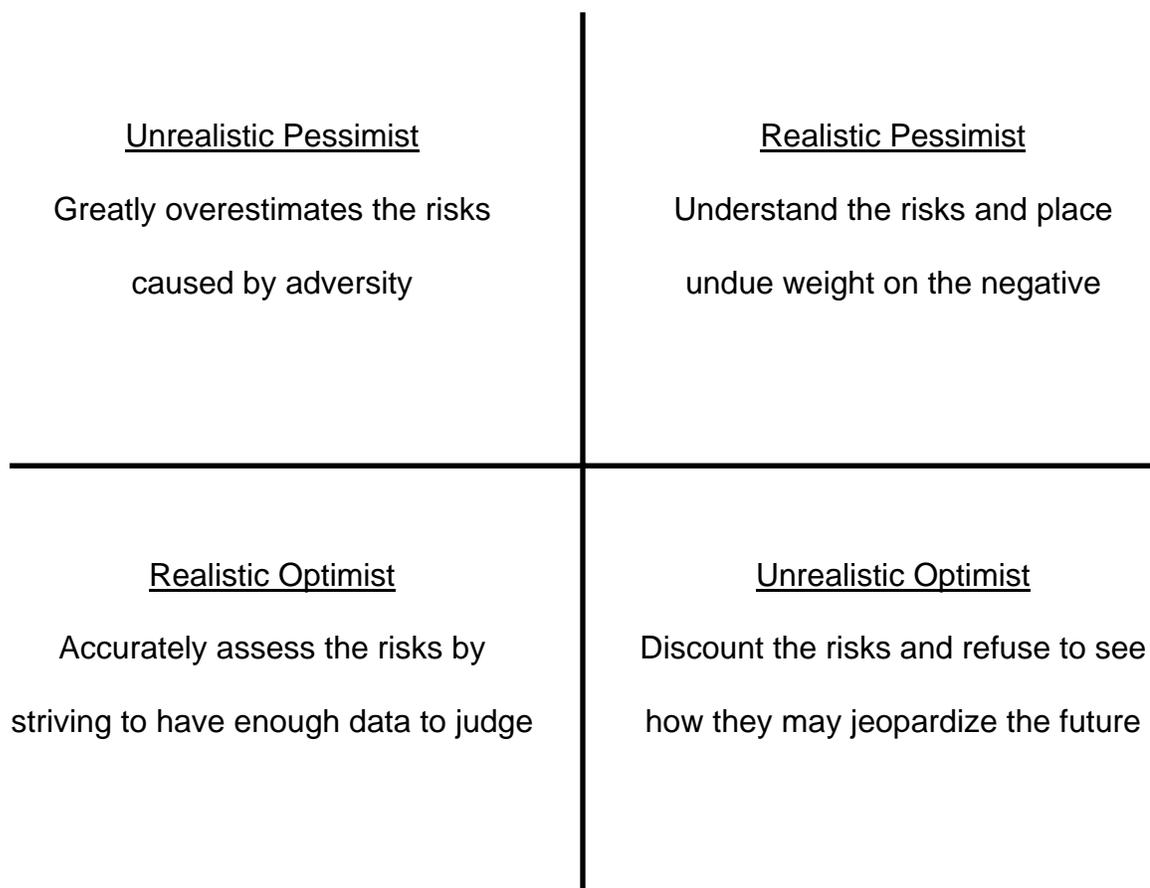
(Patterson & Kelleher, 2005, p. 16)

Figure 3 captures the impact a leader presumes to have on her/his future.
A realistic optimist believes a leader can make a difference, but not a miraculous
difference, recognizing that there are constraints which are beyond the leader's
ability to control. An overly optimistic leader minimized the risk, anticipating they
can succeed without consideration.

Figure 3: A Leader's Scale for Optimism and Pessimism: Interpretation of Future
Possibilities - Ability to Influence the Future

Unrealistic Pessimist	Realistic Pessimist
Refuse to see how they can make any difference	Believe any difference they can make will not be worth the personal effort
Realistic Optimist	Unrealistic Optimist
Believe strongly they can positively influence the future within constraints	Assume they, without a doubt, will have a major influence on the future
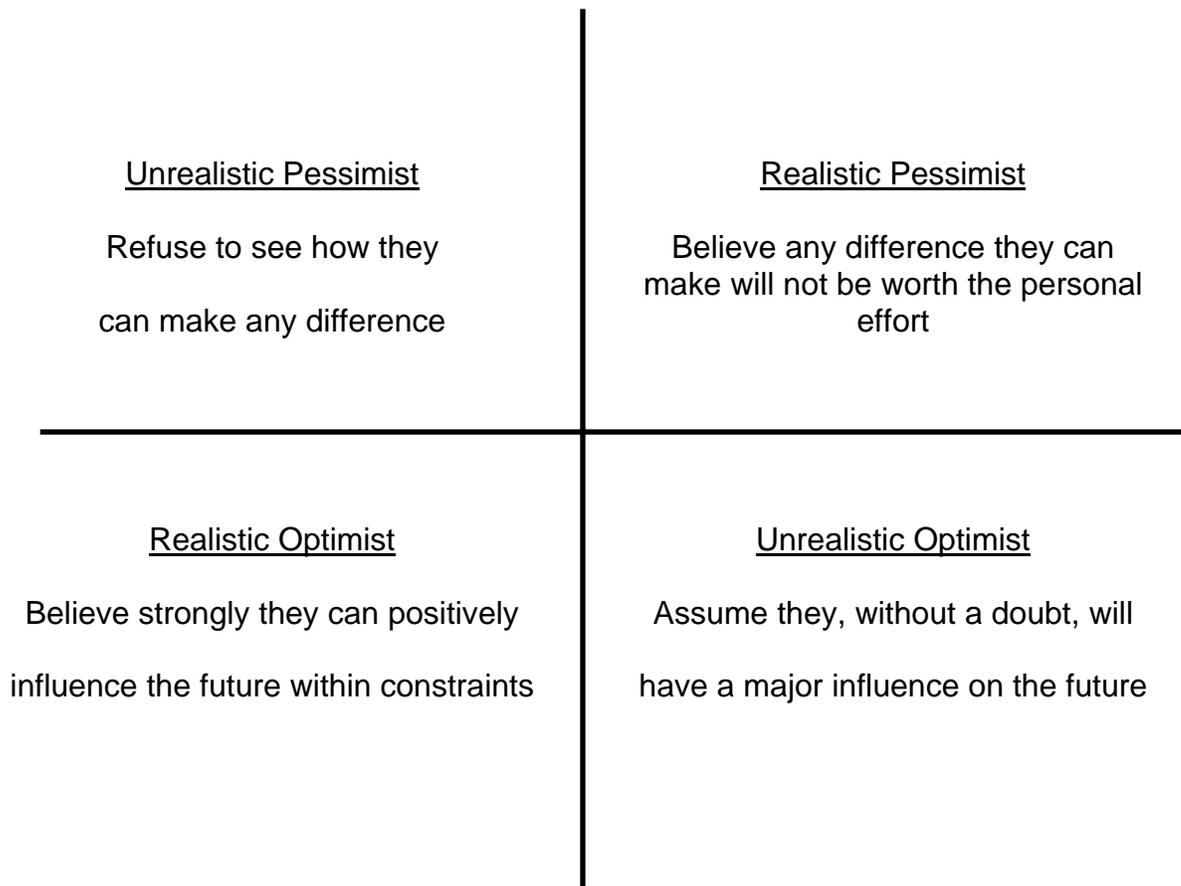
(Patterson & Kelleher, 2005, p. 17)

A leader's anticipation of success, and what will be necessary to achieve it, is provided in Figure 4. A realistically optimistic leader expects positive results and understands that these results will follow significant effort. An unrealistically optimistic leader will over-estimate the difference their involvement can effect change.

Figure 4: A Leader's Scale for Optimism and Pessimism: Interpretation of Future Possibilities - Expectation for Future Success

Unrealistic Pessimist Cannot see any possibility for a positive future	Realistic Pessimist Hold low expectations that anything good will happen
Realistic Optimist Believe good things may happen, but it will require a lot of work	Unrealistic Optimist Assume the best-case outcomes will happen
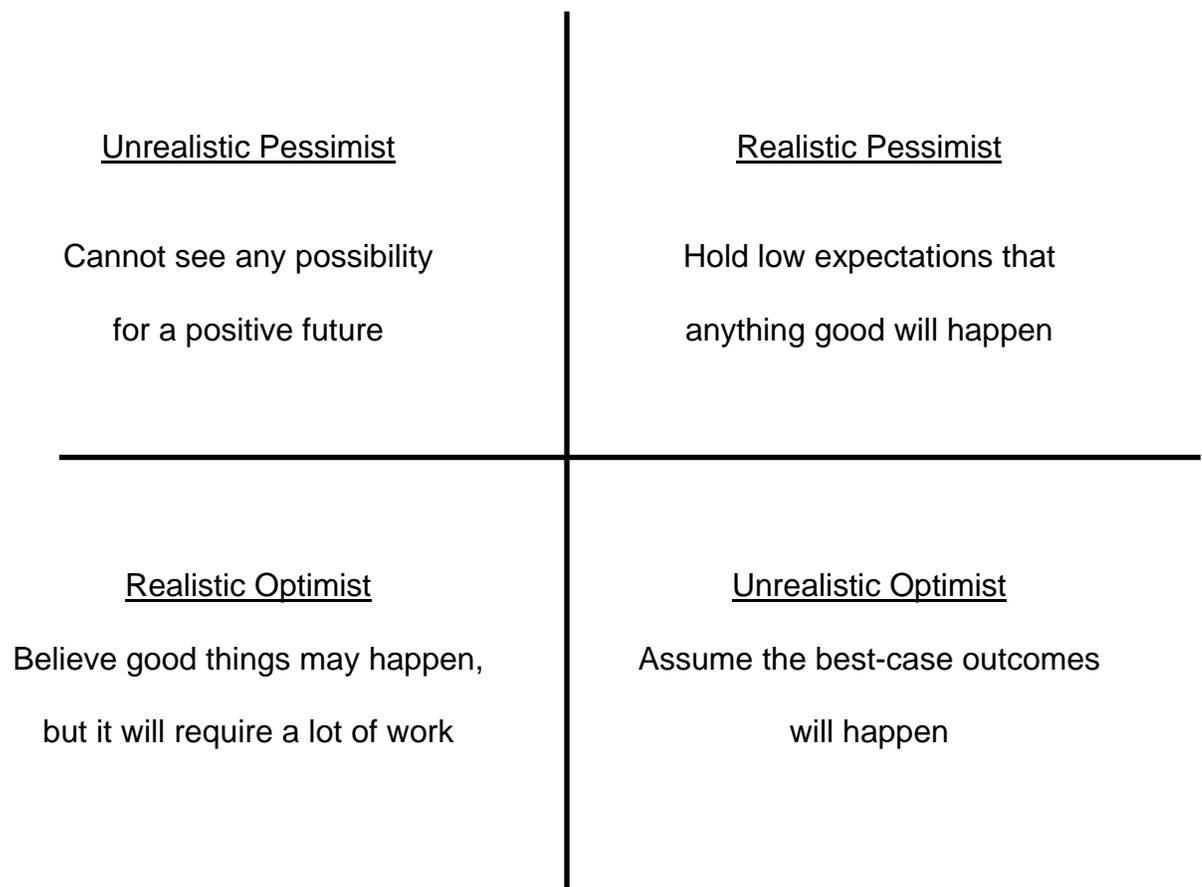
(Patterson & Kelleher, 2005, p. 16)

Figure 5: A Leader's Scale for Optimism and Pessimism: Interpretation of Future
Possibilities - Focus on Future Efforts

<u>Unrealistic Pessimist</u> Focus exclusively on worst-case outcomes	<u>Realistic Pessimist</u> Heavily emphasize the negative side of the problem
<u>Realistic Optimist</u> Acknowledge problems, but choose to emphasize the positive possibilities	<u>Unrealistic Optimist</u> Focus only on perfect solutions
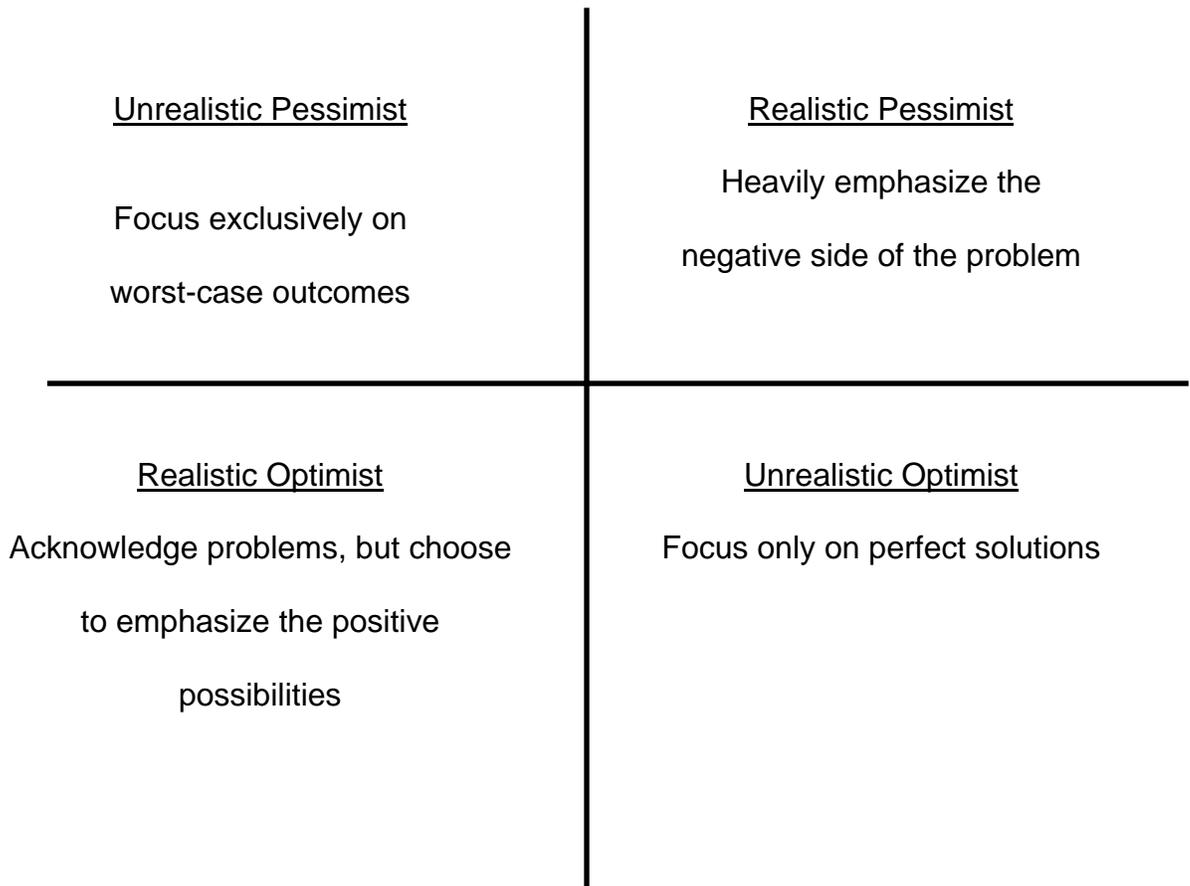
(Patterson & Kelleher, 2005, p. 17)

     Figure 5 portrays the perspectives of various leader types on future

possibilities. A realistic optimist chooses to focus on the positive, while not

denying potential difficulties.

Anderson (2003) points out that optimism is strengthened by self-efficacy, which is "our internal sense of what we can achieve." To cultivate self-efficacy, leaders (a) set goals that are important to them, (b) believe those goals are attainable through specific behaviors, and (c) believe they have the ability to perform the behaviors necessary to achieve those high goals.

Realistic optimists take a long-term view. Educational leader Houston stated, "If you have a short-term view, it is very hard to be resilient, because in the short-term, things are going to happen that are not good. A long-term view makes it almost impossible not to be resilient because this too shall pass. I will have a lot of other shots at this before it is over" (as cited in Patterson, Kelleher, 2005, p. 12).

In summary, optimists focus on the problem at hand, accentuating the positive, which enables the optimist to lighten up and accept things for what they are, and thereby build resilience. In contrast, those who are pessimistically disposed focus on the negative, distort reality, fail to persevere, and remain un-resilient.

How Organizations Can Develop Resilience

Henderson (1998) identifies several characteristics of educational groups (families, schools, and communities) that foster resiliency: (a) promote close bonds, (b) value and encourage education, (c) possess a high-warmth/low-criticism style of interaction, (d) set clear boundaries, (e) encourage supportive relationships, (f) promote sharing of responsibilities, (g) insist in "required

helpfulness", (h) encourage goal-setting, and (i) appreciate the unique talents of each individual.

The cultivation of resilience in employees, in any institution, must be modeled and flow from leadership, and be diffused throughout the enterprise. This desired result comes from selecting and equipping optimal leaders to be resilient themselves and attract others of similar mind. "Resilient people have the ability to attract help and support without becoming passive or excessively dependent" (Sorohan, 1993, p. 13).

Starting at the top of an organization, WFD Consulting recommends that the initial step be to engage and educate leaders about the business costs of low resilience. Most enterprises have not considered the cost of absenteeism and increased health care which have a negative affect on the efficiency of an organization. Secondly, it is necessary to identify threats to resilience in the organization, and to prioritize targets for improvements. This will enable the organization to focus appropriate "resilience building" initiatives. Thirdly, managers must be helped to recognize how their management styles either promote or undermine resilience. Managers are critical to the cultivation and retention of resilient employees. "Managers who can never lighten up tend to burn out and abuse subordinates" (Sorohan, 1993, p. 13). By addressing and managing employee workload and equipping employees with resilience skills through training, enterprises can bolster the "resilience quotient" of their employees. Finally, monitoring resilience regularly through periodic "pulse surveys" will provide appropriate feedback to determine the level of resilience in

the organization, and identify any needs which should be addressed (Training, 2004).

Vanderpol states that managers can help employees maximize their resilience by (a) modeling resilient behavior whenever possible, (b) fostering monitoring relationships with subordinates, (c) encouraging exposure to a wide variety of work situations, and (d) treating instances of resilient or non-resilient behavior as significant enough to be discussed and included in performance appraisals (Sorohan, 1993).

Egeland, Carlson, and Sroufe describe resilience development in educators as "a process that occurs over time in the context of person-environment interactions" (as cited in Bobek, 2002, p. 202). They advocate mentoring programs, recognizing that mentors can provide those significant relationships that contribute to resilience, since new teachers are twice as likely to leave after 3 years, if they have not been in a mentoring program (Bobek, 2002).

Encouraging significant involvement in decision-making and problem solving leads to "ownership" and engagement on the part of employees, thus building their allegiance and longevity. Involvement breeds commitment. Bobek encourages organizations to "provide a sense of ownership by encouraging problem solving, decision making, goal setting and helping others" (2002, p. 204) Similarly, Henderson advocates providing opportunities for "meaningful participation - opportunities to solve problems, make decisions, plan, set goals, and help others" (1998, p. 18).

An organization can build resilience in employees by placing them in situations where they will experience success. Success breeds success. Potentially, what would be more significant to building resilience, would be when an employee is recognized for that success. Kouzes and Posner say to leaders who wish to be effective,

> Remember to say thank you! Study after study points out just how fundamental all this really is. For example, one survey examining employee turnover found that the chief reason people give for leaving is that get "limited praise and recognition." When asked what skills their managers might develop to be more effective, employees placed at the top of the list "the ability to recognize and acknowledge the contributions of others." (1999, p. 101).

Henderson (1998) distilled several useful methods from research showing how schools, families, and communities can provide both environmental protective factors and the conditions that foster individual factors including:

(a) Increase bonding, which "involves strengthening connections between the individual and any pro-social person or activity" (1998, p. 16).

(b) Set clear and consistent boundaries, i.e. behavior policies, enforcement procedures, and consequences.

(c) Teach life skills, including cooperation, conflict resolution, resistance and assertiveness skills, communication skills, problem solving, decision-making, and healthy stress management.

(d) Provide caring support, which was considered the most important to resiliency. Meaningful relationships communicate "you matter". "Educators have remarked on the fact that children will work harder

and do things – even things they find 'odd' – for people for whom they

hold feelings of love and trust" (1998, p. 17).

(e) Set and communicate high expectations, which say "What I am asking

you to do is important; I know you can do it; and I won't give up on you"

(1998, p. 17).

Nuview Union School District in Riverside (CA) County "established

structures and norms designed to build resiliency and optimism in the face of

today's challenges" (Hoffman, 2004, p. 35). Included is a weekly Leadership

Team meetings, comprised of all cabinet members, principals, program

managers, and presidents of both employee associations. This involvement

builds ownership in the district's efforts by each "stakeholder". A Nuview leader

observes, "The strength and resiliency of our leaders appears to be closely linked

to the quality of their involvement in the district's efforts, rather than the success

or failure of those efforts" (as cited in Hoffman, 2004, p. 37).

The school district has designated a "lead principal" to mentor each of his

less-senior colleagues, providing the significant connections crucial to longevity.

Nuview is cultivating continuous, high quality professional growth through the

establishment of a professional learning community. The entire Leadership

Team has studied the business best-seller, "Good to Great: Why Some

Companies Make the Leap and Others Don't" (Collins, 2001), which has

generated a "common understanding of the personal characteristics necessary

for great leadership and the organizational characteristics necessary for

sustained greatness" (Hoffman, 2004, p. 36).

The district leadership is intent on cultivating a culture of entrepreneurship and excellence. The Nuview leadership is engaged in evaluations that focus on strengths, challenges and the future. This includes self-evaluation, the superintendent's "strength-based commentary" on the school leader's performance, and a personal conversation which is generally rewarding to both parties (Hoffman, 2004).

Regarding compensation and resilience, in their study of resilient teachers and teacher leaders, Patterson et al. observed, "In spite of other research that talks about the importance of teacher salaries, it was not mentioned by a single respondent as important in their decision-making" (2004, p. 7). This highlights the strong values-based motivation and sense of mission, a notable characteristic of resilient leaders.

Organizations, educational or corporate, should be intentional about increasing the resiliency of the institution. By starting at the highest level of the enterprise, organizations can provide resilience training, equipping, and support for its leaders. Resilient employees must sense "ownership" in the enterprise which can be cultivated through participation in decision-making and problem solving. Providing supportive relationships, particularly through mentors, will enhance longevity. Appropriate affirmation and recognition will also build resilience.

How Individuals Can Cultivate Resilience

Bobek (2002) identified several resources as important in developing resilience. These include: (a) a sense of personal responsibility, (b) significant (adult) relationships, (c) social and problem-solving skills, (d) a sense of competence, (e) expectations and goals, (f) confidence, (g) a sense of accomplishment, and (h) a sense of humor. Resilient leaders "lead themselves". Enduring leaders pursue personal growth, not relying on their organizations to provide the development.

Resilient leaders possess a strong appreciate and sense of calling to their leadership roles. Therefore, a crucial responsibility of enduring leaders is to develop personal values and viable mission. Regarding the mission-focus of urban teachers, Patterson et al. observed, "Resilient teachers and teacher leaders may vary from the norm in retention because their personal values guide their decision-making. Frequently, they used phrases like, 'It's a calling' or 'I have a responsibility to the children'" (2004, p. 6). Regarding "sustainability" among superintendents, Fullan observed, "what keeps superintendents going is the combination of moral purpose along with building leadership in others… they believe in public service with moral purpose" (2005, p. 19).

Resilient leaders pursue and possess significant "resilience enhancing" social relationships. These relationships may be upward (being mentored), downward (mentoring), or horizontal (peer), and probably some of each is best. Friendships and socials ties are predictors of longevity and contributors to

resilience as those relationships provide support and appropriate feedback. These "resilience enhancing" relationships can provide the safe setting to "disclose" the negative life experiences that need to be appropriately processed to maximize resilience. Anderson holds that a leader's ability to (a) explain the things that happened in one's past (explanatory style), (b) process the traumatic experiences one might have never disclosed, (c) find meaning in negative life experiences, and (d) handling three key emotions: sadness/depression, fear/anxiety, and anger/hostility, "will have a significant influence on physical health and longevity" (2003, p. 235).

Regarding disclosure, behavioral science leader Anderson (2003) suggests picking a topic that one feels needs some resolution, and set aside fifteen minutes to write continuously. Additionally, try talking into a recorder or to a "safe person." A leader should be an appropriately vulnerable person or a "high disclosurer", comfortable with his/her strengths, as well as imperfections.

Resilient leaders possess a light-hearted perspective (optimism) and humor. "A teacher who cultivates a sense of humor and the ability to laugh at her own errors has an excellent medium for releasing frustrations" (Bobek, 2002, p. 204). Additionally, humor can diffuse volatile situations, ease the monotony of daily regimens, improve rapport with others, and promote good health (Bobek, 2002).

Patterson, Patterson, and Collins (2002) identified seven key strengths that bolster school leaders' resilience. Those characteristics are: (a) being positive in spite of adversity, (b) staying focused on what one cares about, (c)

remaining flexible in how one achieve one's goals, (d) taking charge, (e) creating

a climate of personal and professional support, (f) maintaining high expectations

for success for students, teachers and parents, and (g) creating shared

responsibility and participation.

A resilient leader is proactive in leading oneself, not necessarily looking to

the organization to provide development and support. Self-leadership involves

self development and growth, clarifying and living one's values, pursuing and

maintaining enhancing relationships, and cultivating an appropriate perspective

(optimism) on life, particularly in the midst of the challenges and adversities

which tend to be a leader's daily companion.

Summary

Resilience plays a crucial role in an effective leader. The review of

research reveals four quintessential components of resilience: (a) realistic

optimism, (b) emotional intelligence, (c) ability to solve problems, and (d) strong

relational abilities and supportive network.

Regardless of a leader's current level, resilience can be learned and

developed. Resilience must be cultivated by the individual leader and

encouraged by her/his organization, whether educational or corporate.

Mentoring and other socially-enhancing relationships are critical for a resilient

leader. These relationships can be the foundation for personal growth and

processing one's own adversities and traumatic life events. "Resilient thinking"

can be cultivated in leaders, particularly in developing an appropriate view of

one's challenging situations, as well as in practicing optimism. A leader who is intentional about developing resiliency will be well-positioned and well-grounded for a lifetime of leadership.

CHAPTER 3

METHODOLOGY AND PROCEDURES

Introduction

This chapter reviews the problem statement, describes the populations and samples, instrumentation, and data collection. Additionally, the procedures for examining the research questions are included.

Problem Statement

Most research regarding "resilience" has focused on children and disadvantaged individuals. Little research has been done to examine resilience as it specifically relates to leaders. Resilience in leaders is becoming an increasingly valued trait, in this age of high change and stress, especially as people are living and working longer.

The problem this study addressed was (a) what were the resilience quotients of leaders in education and business, (b) what differences existed between the populations of leaders, and (c) what were some of the factors that contribute to the most resilient leaders.

<u>Populations</u>

This study focused on three populations of Central Florida leaders in 2007. Leaders selected were from the educational realm, both Pre-Kindergarten through 12th grade and Higher Education, along with leaders in the business community.

The leaders from the Pre K-12 realm were randomly selected from building administrators in the seven Central Florida school districts (Brevard, Lake, Orange, Osceola, Polk, Seminole, and Volusia Counties). The leaders from Higher Education were randomly selected university administrators and academic chairpersons from two Central Florida universities. These institutions, The University of Central Florida (UCF) and Rollins College, represent a large public research institution and a private liberal arts institution, respectively.

The original study design focused on business leaders randomly selected from the <u>Orlando Business Journal's</u> <u>Book of Lists</u>. The leaders selected proved to be too difficult to access, in order to obtain sufficient responses. An alternative population of business leaders came from the Crummer Graduate School of Business (Rollins College) alumni network and participants in Executive Education Leadership Training provided by Palm Beach Atlantic University at their Orlando campus.

<u>Samples</u>

Samples from each population were determined using random selection. After the appropriate size of each sample was calculated, the sampling of each

population was determined through a computerized selection process using www.Ramdomizer.org.

The sample sizes were determined using "mean estimation" procedure. Varied sample sizes, based on the size of each population, is captured in Table 1.

Table 1: Populations Studied

Population	Population Size	Sample Size
Pre K – 12 School Leaders	1528	288
Higher Education Leaders	866	223
Business Leaders	179	135
Total	2573	646

<u>Instrumentation</u>

The research for this study was conducted using the <u>Resilience Factor Inventory</u> (RFI), a valid and reliable instrument developed by Reivich and Shatte of the University of Pennsylvania. Their research in this area identified seven "resilience factors" (Reivich, Shatte, 2002). Information on the development and validity of the RFI can be found in Appendix A.

Using a Likert scale, the 60-question inventory measures these factors and yields a profile for each factor, as well as a composite score. Additionally, the scores generated are compared to the "Adaptiv Norm" which the authors of

the RFI have determined as the appropriate average. Those resilience factors are: (1) Emotional Regulation, (2) Impulse Control, (3) Causal Analysis, (4) Self-Efficacy, (5) Realistic Optimism, (6) Empathy, and (7) Reaching Out.

Adaptiv Learning (2007) provides the following definitions for the seven factors:

Emotional Regulation – "the ability to stay calm under pressure",

Impulse Control – "the ability to rein in your behavior under pressure",

Causal Analysis – "the ability to comprehensively and accurately identify the sources of problems, which helps you to avoid make the same mistakes over and over",

Self-Efficacy – "our sense of competence and mastery in the world",

Realistic Optimism – "a belief that things can change for the better",

Empathy – "how well you are able to read other peoples' cues to their psychological and emotional states", and

Reaching Out – "the ability to seek out new opportunities, challenges, and relationships".

Basic demographic information was captured as the respondent registered for the RFI. Included in that information was data regarding their duration in their current position, institution, and industry. Additionally, the respondent was asked to rate their current job satisfaction and provide an estimation of their personal resilience level.

Following the completion of the Resilience Factor Inventory, the participant received a personal graph and profile of the seven factors, and how

her/his scores compared with the national norms. Additionally, they were provided with definitions and suggestions for development in each area.

<div align="center">Data Collection</div>

The Resilience Factor Inventory was distributed to the randomly selected leaders using the "Tailored Design Method" (TDM) (Dillman, 2000) via email. The process involved four emailed contacts with the selected individuals. The email addresses were blind-carbon copied, to keep their email addresses confidential. These emails were sent out from October 2007 to December 2007.

The initial contact was an Introductory Email (Appendix D) which informed the leader regarding (1) the doctoral research project at the University of Central Florida, (2) the purpose of the research, (3) alerting them of the imminent questionnaire, and (4) informing of a helpful "thank you" gift as a result of completing the questionnaire. The second email, the Invitation Email (Appendix E) was sent a few days later, providing the link to the Resilience Factor Inventory, along with the necessary information required by the Institutional Review, including how to opt out of the study and further email contacts.

The third contact (Appendix F) was a reminder with the link, the "thank you" gift, and the deadline. The final email (Appendix G), sent after the initial deadline, reviewed the benefit of the research, provided the RFI link, and extended the deadline moderately to maximize participation.

Initially, the process experienced some delay due to the "spam-blocking" technologies used by the educational entities.   While some of the emails were

delivered, emails sent to the two universities (UCF and Rollins College) and three

of the school districts (Brevard, Seminole, and Volusia) were returned entirely.

The emails were sent initially from 3DLeadership@Bellsouth.net, a personal

email address of the researcher, which communicated the "leadership" nature of

the research. When the emails proved to be undeliverable, an educational email

address (.EDU) was used. When the "blocking" persisted, the technology

departments of the two universities were contacted, and both universities were

willing to assist by placing this email address on a "safe sender" list.

   The problem was discovered to be the design of the email which

contained some graphics to enhance their attractiveness and readability.

Following this discovery, some modifications were made to the emails and the

delivery issues were resolved.

   Starting October 6th, 2007, the four emails were sent out in batches

approximately one week apart. Due to the email process delays, the bulk of the

successfully delivered emails were in November and early December with an RFI

completion and submission deadline of December 15th, 2007. The last reminder

email was sent December 6th, 2007.

   The participants took the Resilience Factor Inventory by linking to Adaptiv

Learning's RFI website, http://rfi.adaptivlearning.com. While this website is

accessible to the public, the site is secure (Appendix C) and anonymity is

guaranteed. The Resilience Factor Inventory results of this study's participants

were collected by Adaptiv along with the demographic information.

Because hundreds of individuals take the RFI, the results of those participating in this research study needed to be "distilled" from the database by Dr. Shatte, the RFI's author. A list of the email address domains of the invited participants was provided to Dr. Shatte, who returned the data in February 2008. The researcher was dependent on Dr. Shatte's sorting of the data based on the email addresses provided. While this could provide some possibility of error, i.e. not receiving all respondents to this study's request, the researcher assumes that all responses were captured, analyzed, and submitted to the researcher. Additionally, the researcher did not how many responses were being received until the results were returned by Dr. Shatte, fixing the response rate.

Dependent Variables

The <u>Resilience Factor Inventory</u> was used to determine the overall resilience of the leaders in this study. Additionally, four dimensions of resilience were examined: (a) realistic optimism, (b) emotional intelligence, (c) relational support, and (d) problem-solving ability. These dimensions were determined by an extensive review of the literature, and were deemed consistent with the characteristics evaluated by the RFI.

Independent Variables

The independent variables were the three realms of leaders: Pre K-12, Higher Education, and For-Profit Business Leaders. Additionally, gender, years

in current position, current organization, and industry, along with self-evaluated job satisfaction and self-evaluated resilience were examined.

Data Analysis

The completed <u>Resilience Factor Inventory</u> results were obtained from Adaptiv Learning. Shatte ran the RFI analysis on the participants' information and returned the demographic information along with scores for the RFI's seven factors. This data was entered into an SPSS database. Data analysis in this study was conducted using SPSS Version 16.0. The findings are presented in Chapter 4.

In order to specifically examine for the dimensions of resilience that were determined from the literature research (realistic optimism, emotional intelligence, relational ability, and problem-solving ability), parallel factors from the <u>Resilience Factor Inventory</u> were examined and evaluated for this study. Realistic optimism had a parallel factor in the RFI. Emotional intelligence was a composite of RFI factors "Emotional Regulation" and "Impulse Control". Relational ability was determined by examining "Empathy" and "Reaching Out", and Problem-solving capacity was determined by examining RFI factors "Self-efficacy" and "Casual Analysis".

Data Analysis for Research Question 1

Descriptive statistics for leaders from the Pre K – 12 grade realm, depicting the comparative means for overall resilience and the four dimensions

(realistic optimism, emotional intelligence, relational ability, and problem-solving ability) are provided in Chapter 4. These factors were compared to the national norms, provided by Adaptiv Learning, which were determined from over 4,000 RFI participants.

T- tests were utilized to determine if there were any statistically significant differences from these national norms. Additionally, data was analyzed based on gender, years in current role, current organization, and industry (Pre K – 12), and job satisfaction and self-evaluated resilience. The number of respondents was low for this sample.

Data Analysis for Research Question 2 and 3

Similar analysis to Research Question 1 was utilized, examining the resiliency and specific dimensions for the leaders involved in Higher Education and from the business realm. This included comparison to the national norms. The number of respondents was larger from both of these realms than from the Pre K – 12 leaders.

Data Analysis for Research Question 4

Following an examination of the individual groups, an analysis was run to determine if there were any differences in the three populations. Analyses using a one-way ANOVA determined what differences, if any, existed between the three groups.

The null hypotheses formulated were:

a) There will be no difference in resilience when comparing leaders from Pre K – 12, higher education, and business.

b) There will be no difference in realistic optimism when comparing leaders from Pre K – 12, higher education, and business.

c) There will be no difference in emotional intelligence when comparing leaders from Pre K – 12, higher education, and business.

d) There will be no difference in relational ability when comparing leaders from Pre K – 12, higher education, and business.

e) There will be no difference in problem-solving ability when comparing leaders from Pre K – 12, higher education, and business.

Additional analysis was run on the returned Resilience Factor Inventories to further investigate resilience in the leadership population of Central Florida. Examinations were conducted to compare gender and longevity in position effects, as well as any determinations from outliers.

<u>Summary</u>

Summaries of the demographic information, the overall resilience, and specific resilience dimensions are provided in Chapter 4. Additionally, the t-tests and ANOVA analyses are included. These analyses provided a foundation to draw inferences, and to identify hallmarks of resilience, as well as areas to strengthen in order to cultivate resilience. Conclusions and recommendations from this research and analysis are presented in Chapter 5.

CHAPTER 4

ANALYSIS OF THE DATA

<u>Introduction</u>

This study investigated the resiliency of leaders in Central Florida in

education, both Pre K – 12 and higher education, along with leaders in business.

Using results from the <u>Resilience Factor Inventory</u> (RFI) from Adaptiv Learning,

overall resilience was evaluated, as well as four specific resilience dimensions,

which were identified in the Review of Literature: (a) realistic optimism, (b)

emotional intelligence, (c) relational ability, and (d) problem-solving capabilities.

The first section includes descriptive statistics of each sample, including

demographic information. The second section addresses the four research study

questions, presents the analysis of those statistics, and addresses the

comparative finding regarding the three populations.

<u>Description of the Populations</u>

The data for this study was collected during Fall 2007 using the RFI. All

responses were voluntary, and therefore, considered to truthfully represent the

self-perceptions of the leaders with regard to resiliency. Table 2 displays the

population size, the sample number contacted by email, number of emails

undeliverable, number of requests to withdraw, number of completed RFIs

evaluated, and response rate based on delivered emails minus the withdrawal requests.

Table 2: Response Rates to <u>Resilience Factor Inventory</u>

	Pre K – 12	Higher Education	Business	Total
Total Population	1,528	866	179	2573
Sample Size	288	229	135	652
Undeliverable Emails	128	46	18	192
Delivered Emails	160	183	117	460
Requests to Withdraw	1	1	0	2
Completed RFIs	17	35	31	83
Response Rate (on delivered emails)	10.7%	19.2%	26.5%	18.0%

The response rate from Pre K – 12 (10.7%) was noticeably lower than those from higher education (19.2%) and business (26.5%). This lower response rate for Pre K-12 school leaders is a potential threat to validity. It is possible that a large number of public school leaders, who may not consider themselves "resilient", may have self-selected themselves out of participation in the research. Another possible explanation could be that those leading in public schools may be extremely busy, having less time to devote to email and the requested RFI participation.

Those who responded have been in their current principal positions a mean of 8.3 years (sd = 6.7), putting these leaders, on average, in the upper third of Pre K – 12 leaders, in terms of experience. Two of three school principals have less than five years of experience, 36% have less than 2 years on the job (Provancha, Dove, Perrault, 2001). While the responding group is possibly not representative of the entire population, the respondents represent a good sample of resilient Pre K – 12 leaders, due to their reported longevity. Consequently, the researcher assumes this sample group is productive to examine and can provide insights into long-serving, resilient, educational leaders.

The higher rate of response from the higher education population could be due to the greater "empathy" those in universities may have for doctoral students. The average college leader at doctoral and master's granting institutions has been at their institution an average of 8.8 years (Jaschik, 2007). These research respondents have been with their universities 8.4 (sd = 7.3) years. Therefore, this group would fall within the average tenure, and the researcher presumes this sample is representative.

The elevated response rate of leaders from the business population could be a product of an associative relationship with the researcher. Longevity in business varies, based on industry and position. The researcher assumes this is a representative sample of business leaders. The resulting sample sizes in the higher education and business groups of leaders are considered adequate.

Table 3 presents the demographic information of the total response group, as well as the respondents from each population. While the Pre K – 12

respondents were a smaller sample, those that responded had been in their current positions (8.3 years), with their current organizations (21.4 years), and in the Pre K – 12 realm (26.4 years) longer than either of the other two populations. As previously discussed, this longevity is above the national average, which can potentially provide an even greater insight into resilient leaders.

Table 3: Demographic Description of RFI Response Group by Sample (N = 83)

	Pre K – 12	Higher Education	Business	Total/Average
Number of Respondents	17	35	31	83
Years in Current Job	8.3 years	4.7 years	5.2 years	5.7 years
Years in Present Organization	21.4 years	8.4 years	9.1 years	11.4 years
Years in Industry	26.4 years	14.4 years	13.4 years	16.5 years
% Female / % Male	82% / 18%	54% / 46%	32% / 78%	52% / 48%

The Pre K – 12 sample was significantly female (82%). This is higher than the average percentage of female principals in the state of Florida, which was 60.9% in 2002 (Florida Department of Education, 2003). This may be indicative that the sample has more elementary school principals, due to the fact that there tends to be a higher percentage of female leaders in elementary schools compared to secondary schools (Florida Department of Education, 2003).

The higher education and business response groups were similar, with the exception of gender. The business sample was highly male (78%), but this

percentage appears to be within an appropriate range. A 2002 study of women

in business found 15.7% of corporate officers in Fortune 500 companies were

female, up from 12.5% in 2000 and 8.7% in 1995 (GilDeane Group, 2006).

<u>Research Question 1</u>

What is the "resiliency" of Pre K – 12 educational leaders in Central
Florida on the four scales identified in the Review of Literature: (a)
realistic optimism, (b) emotional intelligence, (c) relational ability, and (d)
problem-solving ability?

Descriptive statistics for the respondents from the Pre K – 12 group,

depicting comparative means and standard deviations, are captured in Table 4.

This includes years in current position and school district, years in the Pre K – 12

environments, self-rated job satisfaction and resilience, RFI results, and the four

resilience factors specifically being examined by this study.

While the response rate was low for the Pre K – 12 building leaders, those

that did respond demonstrated resilience in their "staying power". All had been in

education at least 11 years with an average of 26.4 (sd = 9.4) years in public

schools. These leaders rated their personal resilience at 8.3 (sd = 1.7), which

was as high as any of the three population samples. Job satisfaction (8.1, sd =

1.6) was a healthy evaluation in such a challenging profession.

Table 4: Characteristics of Pre K – 12 Leaders (N = 17)

Variable	Minimum	Maximum	Mean	Std. Deviation
Years in Current Job	1.5	23.0	8.3	6.7
Years in Present Organization	3.0	37.0	21.4	11.3
Years in Industry	11.0	37.0	26.4	9.4
Job Satisfaction	4	10	8.1	1.6
Resilience (self-evaluated)	5	10	8.3	1.7
RFI	60.7	86.7	76.6	6.6
Realistic Optimism	39.3	92.9	76.7	13.6
Emotional Intelligence	65.4	98.6	83.0	8.3
Relational Ability	52.1	95.2	78.8	10.3
Problem-Solving Ability	57.6	88.9	72.3	8.1

To determine the resiliency of the Pre K – 12 leaders compared to the norm, which has been determined from thousands of Resilience Factor Inventory participants nationwide, plus the four factors, t-tests were run on the leaders' RFI results. Table 5 presents the findings.

The data infers that this group of Central Florida Pre K – 12 leaders is quite resilient. The analysis indicates that not only does this sample have a statistically significant higher RFI than the norm, but is also true for realistic optimism, emotional intelligence and relational ability. Only problem-solving was not statistically different.

Table 5: T-Tests: Differences between Pre K – 12 Building Leaders and National

Resilience Factor Inventory Norms (N = 17)

Variable	National Norm	Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval		t	df	Sig. (2-Tailed)
					Lower	Higher			
RFI	71	76	6.6	1.61	2.19	9.01	3.48	16	.003
Realistic Optimism	66	76.7	13.6	3.30	3.68	17.683	3.24	16	.005
Emotional Intelligence	75.5	83.0	8.3	2.02	3.25	11.83	3.72	16	.002
Relational Ability	71	78.7	10.3	2.49	2.50	13.09	3.12	16	.007
Problem Solving Ability	71	72.3	8.1	1.97	-2.87	5.478	.664	16	.516

The overall resilience measured by Resilience Factor Inventory was 76

(sd = 6.6). Compared to the national norm of 71, there was a statistically

significant difference d, t(16) = 3.48, p < .01.

Regarding the four resilience factors measured by this research, three of

four factors were significantly different from the comparative norms. The mean

for realistic optimism was 76.7 (sd = 13.6), which was statistically different from

the national norm (66), d, t(16) = 3.24, p < .01. For emotional intelligence, the

mean rating of 83.0 (sd = 8.3) was significantly different from the RFI norm (75.5)

d, t(16) = 3.72, p < .01. Relational support 78.8 (sd = 10.3) was also statistically

significantly different d, t(16) = 3.12, p < .01.

<u>Research Question 2</u>

What is the "resiliency" of leaders in higher education in Central Florida?

Descriptive statistics for leaders from higher education, including comparative means and standard deviations, are listed in Table 6. Years in current role, institution, and working with universities, self-rated job satisfaction and resilience, RFI results, and the four reliance dimensions are measured in this research.

Table 6: Characteristics of Higher Education Leaders (N = 35)

Variable	Minimum	Maximum	Mean	Std. Deviation
Years in Current Job	.5	22.0	4.8	4.3
Years in Present Organization	.5	23.0	8.4	7.3
Years in Industry	1.0	43	14.4	10.8
Job Satisfaction	7	10	8.6	1.1
Resilience (self-evaluated)	4	10	8.3	1.2
RFI	57.3	86.9	75.2	7.3
Realistic Optimism	50	100	75.5	19.9
Emotional Intelligence	68.3	100	83.6	8.6
Relational Ability	56.6	97.5	76.8	10.6
Problem-Solving Ability	40.3	88.9	73.4	10.7

Similar to leaders in Pre K – 12, higher education leaders displayed above average resilience. These university leaders self-rated their resilience 8.3 (sd = 1.2), the highest of the three populations sampled. This groups' RFI comparative mean was 75.2 (sd = 7.3), which was statically above the national norm. Additionally, this group had the highest job satisfaction of the Central Florida groups studied, 8.6 (sd = 1.1).

Table 7: T-Tests: Differences between Higher Education Leaders and National Resilience Factor Inventory Norms (N = 35)

Variable	National Norm	Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval		t	df	Sig. (2-Tailed)
					Lower	Higher			
RFI	71	75.2	7.3	1.23	1.78	6.78	3.49	34	.001
Realistic Optimism	66	75.5	15.9	2.69	4.05	14.98	3.54	34	.001
Emotional Intelligence	75.5	83.6	8.65	1.46	5.15	11.09	5.55	34	.000
Relational Ability	71	76.8	10.6	1.79	2.20	9.47	3.26	34	.003
Problem Solving Ability	71	73.4	10.8	1.82	-1.31	6.10	1.32	34	.197

T-tests examining the means of the RFI and four factors were run and analyzed (Table 7). Like the public school leaders, those studied from the university setting also had strong resilience indicators. As with the other

education sample, these leaders were statistically higher in their composite RFI results and all factors with the exception of problem-solving.

The overall resilience measured by Resilience Factor Inventory was 75.2 (sd = 7.3). Compared to the national norm of 71, there was a statistically significant difference d, t(34) = 3.49, p < .01.

As displayed in Table 7, three of four factors were significantly higher from the national RFI norms. The mean for realistic optimism was 75.5 (sd = 15.9), which was statistically different from the national norm (66), d, t(34) = 3.54, p < .01. For emotional intelligence, the mean rating of 83.6 (sd = 8.6) was significantly different from the RFI norm (75.5) d, t(34) = 5.55, p < .01. Relational support, 78.8 (sd = 10.6), was also statistically significantly different d, t(34) = 3.26, p < .01. Problem-solving capacity was higher than the national norm, but not statistically significant, 73.4 (sd = 10.8), d, t(34) = 1.32, p = .197.

<u>Research Question 3</u>

What is the "resiliency" of business leaders in Central Florida?

Table 8 displays the descriptive statistics for leaders from the business realm of Central Florida in Fall 2007. This includes years in their current position, years with their business enterprise, the number of years employed in their specific industry, as well as, self-rated job satisfaction and resilience, RFI results, and the four resilience dimensions being studied by this research.

Table 8: Characteristics of Business Leaders (N = 31)

Variable	Minimum	Maximum	Mean	Std. Deviation
Years in Current Job	.0	28.0	5.2	6.4
Years in Present Organization	.0	34.0	9.1	10.7
Years in Industry	.0	38.0	13.4	11.6
Job Satisfaction	2	10	7.8	2.1
Resilience (self-evaluated)	5	10	8.0	1.3
RFI	63.3	87.1	74.0	5.9
Realistic Optimism	39.3	100	77.8	13.3
Emotional Intelligence	60.6	96.3	78.1	9.0
Relational Ability	58.4	98.2	76.4	9.5
Problem-Solving Ability	56.9	91.7	75.2	8.0

All of the resilience measures for the business sample were higher than Adaptiv's RFI national norms. This groups' Resilience Factor Inventory mean was 74.0 (sd = 5.9) which was above the national norm (71). While lower than their educational counterparts in most resiliency dimensions, the business leaders had the highest Problem-Solving factor of three groups sampled and studied, 75.2 (sd = 8.0).

T-tests investigating the comparative means of the RFI and four factors were analyzed and are listed in Table 9. The business leaders' inventories revealed another resilient group. The Central Florida business leaders who

responded were statistically higher in their composite RFI results and for all

examined factors, with the exception of emotional intelligence.

The overall resilience measured by Resilience Factor Inventory was 74.0

(sd = 5.9), which is the lowest of the three Central Florida samples. Compared to

the national norm of 71, there was a statistically significant difference d, t(30) =

2.83, p < .01.

Table 9: T-Tests: Differences between Business Leaders and National

Resilience Factor Inventory Norms (N = 31)

Variable	National Norm	Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval		t	df	Sig. (2-Tailed)
					Lower	Higher			
RFI	71	74.0	5.9	1.1	.831	5.16	2.83	30	.008
Realistic Optimism	66	77.8	13.3	2.4	6.9	16.6	4.93	30	.000
Emotional Intelligence	75.5	78.1	9.1	1.6	-.746	5.89	1.58	30	.124
Relational Ability	71	76.4	9.5	1.7	1.95	8.90	3.19	30	.003
Problem Solving Ability	71	75.2	8.0	1.4	1.27	7.13	2.93	30	.006

As displayed in Table 9, three of four factors were significantly different

from the national RFI norms. The mean for realistic optimism was 77.8 (sd =

13.3), which was statistically different from the national norm (66), d, t(30) = 4.93,

p < .01. Realistic optimism for business leaders was the highest of the three

groups examined. Additionally, relational support 76.4 (sd = 9.5) was also statistically significantly different d, t(30) = 3.19, p < .01 from the national norm.

For problem-solving abilities, the mean rating of 75.2 (sd = 8.0) was significantly different from the RFI norm (71) d, t(30) = 2.93, p < .01. Business leaders were the only group to have a statistically higher norm in the problem solving skills of the three samples.

The only component factor for the business leaders sampled, which was not significantly different from the national norm, was emotional intelligence (78.1) d, t(30) = 1.58, p > .05. This result is intriguing in light of the current literature suggesting that emotional intelligence is critical to success in the business arena (Goleman, Boyatzis, McKee, 2002). The mean score for this group was still higher than the RFI national norm (75.5). This analysis may speak to the need for further development of emotional intelligence for this population, in the interest of increased resiliency, in business leaders.

<u>Research Question 4</u>

What differences, if any, exist between resilient leaders in education, both Pre K – 12 and higher education, and corporate business arenas?

The null hypotheses for Research Question 4 are:

a) There will be no difference in resilience when comparing leaders from Pre K – 12, higher education, and business.

b) There will be no difference in realistic optimism when comparing leaders from Pre K – 12, higher education, and business.

c) There will be no difference in emotional intelligence when comparing leaders from Pre K – 12, higher education, and business.

d) There will be no difference in relational ability when comparing leaders from Pre K – 12, higher education, and business.

e) There will be no difference in problem-solving capabilities when comparing leaders from Pre K – 12, higher education, and business.

In order to determine if there are any significant differences, a one-way Analysis of Variation between the three groups (ANOVA) was run. The results are presented in Table 10.

There is a statistically significant difference in years with their organization $(F(2, 80) = 12.015, p < .01)$ and years in industry $(F(2, 80) = 8.859, p < .01)$, probably due to the high values for the respondents from the Pre K – 12 arena, since the higher education and business leaders had similar job durations. The ANOVA indicates that the primary statistically significant difference between the groups exists in the realm of emotional intelligence $(F(2, 80) = 3.667, p = .030)$. This analysis indicates that Central Florida leaders in education, both Pre K – 12 and college, have a substantially higher degree of emotional intelligence than the business leaders in Central Florida, which may serve as an important asset, enabling them to endure at leaders in the challenging education realm.

Both education groups, Pre K – 12 and university, have similarly statistically higher resilience factors, realistic optimism, emotional intelligence, and relational abilities. This may reveal the importance of the "people side" of these educational realms. Educators are "people producing people through

people". Having strength in these arenas may be key in identifying personnel who have a capacity for longevity, and may be helpful in cultivating resilience in developing leaders.

Table 10: Analysis of Variation: Differences between Educational and Business Leaders in Central Florida (N = 83)

Variable		Sum of Squares	df	Mean Square	F	Significance
Years in Current Job	Between Groups	154.983	2	77.492	2.401	.097
	Within Groups	2582.481	80	32.281		
	Total	2737.464	82			
Years in Present Organization	Between Groups	2184.444	2	1092.222	12.015	.000
	Within Groups	7272.273	80	90.903		
	Total	9456.717	82			
Years in Industry	Between Groups	2103.058	2	1051.529	8.859	.000
	Within Groups	9495.165	80	118.690		
	Total	11598.223	82			
Job Satisfaction	Between Groups	11.322	2	5.661	2.051	.135
	Within Groups	220.775	80	2.760		
	Total	232.096	82			
Resilience (self-evaluated)	Between Groups	1.843	2	.922	.571	.567
	Within Groups	129.072	80	1.613		
	Total	130.916	82			
Resilience Factor Inventory	Between Groups	77.045	2	38.522	.870	.423
	Within Groups	3544.306	80	44.304		
	Total	3621.351	82			
Realistic Optimism	Between Groups	83.390	2	41.695	.198	.821
	Within Groups	16869.394	80	210.867		
	Total	16952.784	82			
Emotional Intelligence	Between Groups	560.660	2	280.330	3.667	.030
	Within Groups	6115.370	80	76.442		
	Total	6676.031	82			
Relational Ability	Between Groups	65.248	2	32.624	.318	.728
	Within Groups	8205.009	80	102.563		
	Total	8270.256	82			
Problem-Solving Ability	Between Groups	104.208	2	52.104	.602	.550
	Within Groups	6918.959	80	86.487		
	Total	7023.167	82			

"Problem-solving" capacity seems to be a differentiator for business leaders. If education is "people producing people", being a leader in business

may involve more "people producing projects", requiring a greater capacity to execute projects and processes, with a moderate need for "people" components.

Presuming the leaders who responded are representative of their populations and are effective as leaders, this research study reveals that this distinguishing factor of emotional intelligence may be a vital component in being a successful, resilient leader in education. While emotional intelligence is important in any realm of leadership, emotional competency may not be as critical for an effective business leader, whose job may primarily involve projects and processes, and calls for greater problem solving abilities.

Some leadership roles in business may require a greater need for emotional intelligence, depending on the responsibilities and "people" component of the position. In any case, no leader, in education or business can neglect cultivating her/his emotional intelligence capacity. The research has shown that EQ can make a significant difference, both organizationally and financially (Goleman et al., 2002).

The statistical significance of years in present organization (p < .01), years in industry (p < .01), and emotional intelligence (p = .03) raises the notion that these factors may be related. For example, do years in an organization increase one's emotional intelligence? Does the age of a leader, indicated by the leader's years in the industry, contribute to increased emotional intelligence, since emotional intelligence can be increased (Goleman et al., 2002)?

To examine the existence of any relationship between these significant factors, a partial correlation was run. Two partial correlations were processed,

controlling for population group and their Resilience Factor Inventory scores.

The results are captured in Tables 11 and 12.

Table 11: Relationship between Length of Time in Organization and Industry and Emotional Intelligence, controlling for Population. (N=83)

Control Variable	Variable		Present Organization	Years in Industry	Emotional Intelligence
Group	Years in Present Organization	Correlation	1.000	.763	.117
		Sig. (2-tailed)		.000	.297
		df	0	80	80
	Years in Industry	Correlation	.763	1.000	.036
		Sig. (2-tailed)	.000		.750
		df	80	0	80
	Emotional Intelligence	Correlation	.117	.036	1.000
		Sig. (2-tailed)	.297	.750	
		df	80	80	0

The results of both partial correlations reveal, not surprisingly, that there is a strong correlation between the number of years in the organization and years in leaders' respective industries (r = .763, p < .01) when controlling for population and (r = .552, p < .01) when controlling for RFI.

Emotional intelligence does not significantly correlate to either years in an organization (r = .117, p > .05) or industry (r = .035, p > .05) when controlling for sample group. Nor does emotional intelligence correlate significantly, when controlling for scores on the Resilience Factor Inventory, with years in the organization (r = -.055, p > .05) and industry (r = -.098, p > .05). Consequently,

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the research data does not support the concept that emotional intelligence is a product of longevity in an organization or industry.

Table 12: Relationship between Length of Time in Organization and Industry and Emotional Intelligence, controlling for <u>Resilience Factor Inventory</u>. (N=83)

Control Variable	Variable		Present Organization	Years in Industry	Emotional Intelligence
RFI	Years in Present Organization	Correlation	1.000	.776	-.055
		Sig. (2-tailed)		.000	.624
		df	0	80	80
	Years in Industry	Correlation	.776	1.000	-.098
		Sig. (2-tailed)	.000		.383
		df	80	0	80
	Emotional Intelligence	Correlation	-.055	-.098	1.000
		Sig. (2-tailed)	.624	.383	
		df	80	80	0

<u>Additional Analysis</u>

The previous analysis indicated that emotional intelligence was the only statistically significant difference between the three groups sampled. In the case of this study, emotional competence was significantly lower in the business sample than in either of the educational samples. While the business leaders were stronger in problem-solving, it was not significantly different.

To determine if there are any other differentiators from which to learn, additional analysis was done to examine (1) any correlations that might exist

between factors, (2) if gender was a factor in resilience and its four components, (3) if longevity in current job relates to resilience and related factors, and (4) if anything could be discovered from outliers, that is, leaders with RFI or component scores two or more standard deviations from the component means.

Correlations

To study the factors which might contribute to strong resilience in leaders, a regression analysis was run examining the length of time in their current job, organization, and industry, as well as, self-evaluations of resilience and job satisfaction, along with the four contributing factors. These correlations are listed in Table 13.

While several factors had significant correlations to RFI scores, emotion intelligence (r = .789, p < .01) and relational ability (r = .837, p < .01) had high correlation coefficients. These two factors are likely to be critical to effective resilience building in developing leaders.

Additionally, relational ability showed a high correlation with realistic optimism (r = .782, p < .01). Since relational capabilities correlate the highest with RFI and realistic optimism, this might be a noteworthy indicator of the resilience of a leader, and could be something to evaluate in hiring new leaders or developing future leaders.

Table 13: Relationship between <u>Resilience Factor Inventory</u> and Length of Time
in Job, Organization, and Industry, Self-Evaluations, and Four Resilience Factors
(N=83)

Variable		RFI	Realistic Optimism	Emotional Intelligence	Relational Ability	Problem Solving
Years in Current Job	Pearson Correlation	.226	.254	.121	.308	.009
	Sig. (2-tailed)	.040	.021	.276	.005	.934
	N	83	83	83	83	83
Years in Present Organization	Pearson Correlation	.169	.180	.100	.213	.009
	Sig. (2-tailed)	.127	.103	.369	.054	.937
	N	83	83	83	83	83
Years in Industry	Pearson Correlation	.129	.132	.043	.136	-.032
	Sig. (2-tailed)	.244	.235	.703	.220	.776
	N	83	83	83	83	83
Job Satisfaction	Pearson Correlation	.320	.027	.348	.143	.216
	Sig. (2-tailed)	.003	.810	.001	.196	.050
	N	83	83	83	83	83
Resilience (self-evaluated)	Pearson Correlation	.366	.101	.395	.281	.183
	Sig. (2-tailed)	.001	.366	.000	.010	.097
	N	83	83	83	83	83
Resilience Factor Inventory	Pearson Correlation	1	.584	.789	.837	.673
	Sig. (2-tailed)		.000	.000	.000	.000
	N	83	83	83	83	83
Realistic Optimism	Pearson Correlation	,584	1	.359	.782	.201
	Sig. (2-tailed)	.000		.001	.000	.068
	N	83	83	83	83	83
Emotional Intelligence	Pearson Correlation	.789	.359	1	.610	.362
	Sig. (2-tailed)	.000	.001		.000	.001
	N	83	83	83	83	83
Relational Ability	Pearson Correlation	.837	.782	.359	1	.201
	Sig. (2-tailed)	.000	.000	.001		.068
	N	83	83	83	83	83
Problem-Solving Ability	Pearson Correlation	.673	.201	.362	.388	1
	Sig. (2-tailed)	.000	.068	.001	.000	
	N	83	83	83	83	83

Further evidence that both emotional intelligence and relational ability are found in a resilient leader is provided by the analysis, showing that each of these factors had statistically significant correlations with 6 of the other 9 factors examined. These significant correlations are distilled in Table 14 for emotional intelligence and Table 15 for relational ability. This analysis would support that these two vital components are vital for resilient leadership.

Table 14: Relationship between Emotional Intelligence and Significant Resilience Factors (N=83)

Variable		Emotional Intelligence
Job Satisfaction	Pearson Correlation	.348
	Significance (2-tailed)	.001
	N	83
Resilience (self-evaluated)	Pearson Correlation	.395
	Significance (2-tailed)	.000
	N	83
Resilience Factor Inventory	Pearson Correlation	.789
	Significance (2-tailed)	.000
	N	83
Realistic Optimism	Pearson Correlation	.359
	Significance (2-tailed)	.001
	N	83
Relational Ability	Pearson Correlation	.359
	Significance (2-tailed)	.001
	N	83
Problem-Solving Ability	Pearson Correlation	.362
	Significance (2-tailed)	.001
	N	83

Table 15: Relationship between Relational Ability and Significant Resilience

Factors (N=83)

Variable		Relational Ability
Years in Current Job	Pearson Correlation Significance (2-tailed) N	.308 .005 83
Resilience (self-evaluated)	Pearson Correlation Significance (2-tailed) N	.281 .010 83
Resilience Factor Inventory	Pearson Correlation Significance (2-tailed) N	.837 .000 83
Realistic Optimism	Pearson Correlation Significance (2-tailed) N	.782 .000 83
Emotional Intelligence	Pearson Correlation Significance (2-tailed) N	.362 .001 83
Problem-Solving Ability	Pearson Correlation Significance (2-tailed) N	.388 .000 83

In examining duration in a job, organization, or industry correlating with

resilience, there were no substantial correlations. While several correlations with

years in current position were significant, none of the significant correlations were

greater than .308, i.e. years in job and relational abilities only correlated at .308,

$p < .01$. There were no statistically significant correlations for years in present

organization or industry. In light of this, longevity will be examined later in the

analysis.

Gender

A second additional investigation examined whether gender affected resilience. The composite group of respondents was slightly more female (51.8%) than male (48.2%). As mentioned earlier in the study, the Pre K – 12 sample favored female (82%) and was higher than the Florida state average of 60.9% female principals.

Table 16: <u>Resilience Factor Inventory</u> and Resiliency Descriptives by Gender (N=83)

Variable		N	Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval for Mean	
						Lower	Higher
RFI	Female	43	76.18	6.38	.97	74.22	78.15
	Male	40	73.88	6.79	1.07	71.70	76.05
	Total	83	75.07	6.64	.73	73.62	76.52
Realistic Optimism	Female	43	79.32	12.80	1.95	75.38	83.26
	Male	40	73.66	15.53	2.45	68.69	78.62
	Total	83	76.59	14.38	1.58	73.45	79.73
Emotional Intelligence	Female	43	82.92	8.55	1.30	80.29	85.55
	Male	40	79.83	9.35	1.48	76.84	82.82
	Total	83	81.43	9.02	.99	79.46	83.40
Relational Ability	Female	43	78.54	9.41	1.43	75.64	81.43
	Male	40	75.52	10.58	1.67	72.14	78.90
	Total	83	77.08	10.04	1.10	74.89	79.28
Problem Solving Ability	Female	43	74.23	9.65	1.47	71.26	77.20
	Male	40	73.44	8.91	1.41	70.59	76.29
	Total	83	73.85	9.25	1.02	71.83	75.87

The business leader sample favored male (78%). The higher education

sample was similar to the research group average. Table 16 lists the Resilience

Factor Inventory scores and four factor scores by gender.

An ANOVA analysis based on gender, comparing the two groups, was

run, and the results are captured in Table 17. The male leaders were lower in

their overall Resilience Factor Inventory scores, but it was not significantly

different, $(F(1, 81) = 2.55, p > .1)$. Similarly, the male leaders were lower in all

individual factors, but the difference was not statistically significant.

Table 17: Analysis of Variation: Resiliency Differences in Leaders by Gender (N

= 83)

Variable		Sum of Squares	df	Mean Square	F	Sig.
Resilience Factor Inventory	Between Groups	110.457	1	110.457	2.55	.114
	Within Groups	3510.894	81	43.344		
	Total	3621.351	82			
Realistic Optimism	Between Groups	663.543	1	662.543	3.300	.073
	Within Groups	16289.241	81	201.102		
	Total	16952.784	82			
Emotional Intelligence	Between Groups	198.006	1	198.006	2.476	.120
	Within Groups	6478.025	81	79.976		
	Total	6676.031	82			
Relational Ability	Between Groups	188.652	1	188.652	2.982	.173
	Within Groups	8081.604	81	99.773		
	Total	8270.256	82			
Problem-Solving Ability	Between Groups	12.946	1	12.946	.150	.700
	Within Groups	7010.220	81	86.546		
	Total	7023.167	82			

Longevity

An analysis was completed on sampled leaders examining the longevity factor, i.e. leaders in their jobs 10 years or more (16 respondents or 19.3%), and 15 years or more (6 or 7.2% of respondents). The descriptives are displayed in Table 18. In all cases, the mean scores were higher than the national RFI and factor norms, as well as the total Central Florida sample.

Table 18: Characteristics of Central Florida Leaders in their Positions 10 years or longer (N = 16) and 15 years or longer (N=6)

Variable	Mean	Std. Deviation	Mean	Std. Deviation
	> = 10 years (N=16)		> = 15 years (N=6)	
Years in Current Job	15.4	5.6	21.7	3.7
Years in Present Organization	25.6	8.1	31.0	5.5
Years in Industry	31.4	7.3	33.5	4.6
Job Satisfaction	8.6	1.4	8.8	1.0
Resilience (self-evaluated)	8.1	1.3	8.7	1.0
RFI	78.0	6.0	81.6	4.9
Realistic Optimism	82.6	12.6	92.2	8.6
Emotional Intelligence	83.0	7.9	87.3	6.4
Relational Ability	82.0	10.3	90.3	4.9
Problem-Solving Ability	74.4	8.0	73.6	7.2

Table 19 (leaders in their position > or = to 10 years) and Table 25 (leaders in their positions > = 15 years) offer a comparison of these long-serving leaders to all of this study's respondents. While there were no significantly different resilience factors between the 10-year population and the general group, the > = 15 years population had two factors that were statistically significantly different, as revealed in Table 20.

Table 19: T-Tests: Differences between Longevity Leaders (>= 10 years) and Central Florida Leaders' <u>Resilience Factor Inventory</u> Norms (N = 16)

Variable	Sample Norm	Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval		t	df	Sig. (2-Tailed)
					Lower	Higher			
RFI	76	78.0	6.0	1.5	-1.252	5.19	1.3	15	.212
Realistic Optimism	76.7	82.6	12.6	3.2	-.840	12.63	1.9	15	.082
Emotional Intelligence	83	83.0	7.9	2.0	-4.23	4.24	.003	15	.998
Relational Ability	78.7	82.0	10.3	2.6	-2.20	8.81	1.3	15	.220
Problem Solving Ability	72.3	74.4	8.0	2.0	-2.18	6.40	1.05	15	.312

As listed in Table 20, realistic optimism (d, t(5) = 4.45, p < .01) and relational support (d, t(5) = 4.23, p < .01) were notably different. These factors could be important to cultivating longevity and resilience in leaders. Relational

capabilities also surfaced earlier in the correlation analysis, suggesting that factor

may be a differentiator in cultivating resilience.

Table 20: T-Tests: Differences between Longevity Leaders (>= 15 years) and

Central Florida Leaders' <u>Resilience Factor Inventory</u> Norms (N = 6)

Variable	Sample Norm	Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval		t	df	Sig. (2-Tailed)
					Lower	Higher			
RFI	76	81.6	4.9	2.0	.469	10.73	2.8	5	.038
Realistic Optimism	76.7	92.3	8.6	3.5	6.58	24.56	4.45	5	.007
Emotional Intelligence	83	87.3	6.4	2.6	-2.42	10.99	1.64	5	.161
Relational Ability	78.7	90.3	6.7	2.7	4.55	18.65	4.23	5	.008
Problem Solving Ability	72.3	73.6	7.2	2.9	-6.21	8.88	.454	5	.669

Another observation from the longevity analysis was the decrease in

significance in problem-solving ability between the 10-year group (d, t(15) = 1.05,

p = .312) and the 15+ group (d, t(5) = 4.54, p < .669). This could suggest a

reduced need for problem-solving capabilities as a leader progresses. This

inverse relationship between longevity and problem-solving may indicate that

problem-solving becomes less important the longer one serves as a leader, while

the need for realistic optimism and relational support becomes increasingly

important.

Table 21 lists the longevity respondents by sample group. This reveals that while the Pre K - 12 respondents represent a smaller portion of the study, this group has a substantial segment of leaders who have been in their jobs for an admirable duration. While the Pre K – 12 group represents only 20.5% (17 of 83 respondents), 41.2% of Pre K – 12 respondents (7 of 17) have been in their positions 10 years or more, and 17.6% (3 of 17) have served 15 years or more in their current roles.

Table 21: Number, Categories, and Percent of Group Sample of Leaders in their Positions 10 years or longer (N = 16) and 15 years or longer (N=6)

Category	Number in Sample	Percent of Group Sample	Number in Sample	Percent of Group Sample
	> = 10 years (N=16)		> = 15 years (N=6)	
Leaders in Higher Education	3	8.6%	1	2.8%
Leaders in Pre K – 12	7	41.2%	3	17.6%
Leaders in Business	6	19.3%	2	6.4%

An examination of the resilience factors for leaders who have been in their roles for an extensive time is displayed in Table 22. This test yielded no significant correlations for leaders who have been in their positions 15 years or greater.

Two factors were significant for those leaders who had been in their roles

10 years or more. Realistic optimism (r = .653, p < .01) and relational ability (r =

.651, p < .01) correlated high with years in current job.

Table 22: Relationship between Duration in Job (>= 10 years and >= 15years)

and <u>Resilience Factor Inventory</u> plus the Four Resiliency Factors

		RFI	Realistic Optimism	Emotional Intelligence	Relational Ability	Problem-Solving
Years in Current Job (>=10 years)	Pearson Correlation	.444	.653	.405	.651	.249
	Sig. (2-tailed)	.085	.006	.119	.006	.353
	N	16	16	16	16	16
Years in Current Job (>=15 years)	Pearson Correlation	.410	.351	.019	.022	-.790
	Sig. (2-tailed)	.420	.495	.971	.968	.062
	N	6	6	6	6	6

Outliers

Aiken and Groth-Marnat point out that many of the greatest discoveries

have come from examining the outliers (Aiken & Groth-Marnat, 2005). With this

in mind, this study also examined the top 5% and lowest 5% of RFI respondents,

using an independent samples test, comparing the outliers with the remainder of

the respondents.

Table 23 provides results for the top 5%, and Table 24 displays the
independent samples test results for the lowest 5%. The independent samples
analysis reveals that these top 5% leaders are significantly different from the
balance of the research group in RFI scores (d, $t(81) = 3.746$, $p < .01$) and in all
four resiliency factors. The greatest difference was in the realm of emotional
intelligence (d, $t(81) = 3.131$, $p < .01$).

Table 23: Independent Samples Test: Comparison of Top 5% <u>Resilience Factor</u>
<u>Inventory</u> Scores (N=4) to All Research Study Respondents (N=79)

Variable	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval for Mean	
						Lower	Higher
Years in Job	.875	81	.384	2.593	2.965	-3.3069	8.4936
Years in Org.	.461	81	.646	2.547	5.530	-8.4563	13.5512
Years in Industry	-.512	81	.610	-3.133	6.123	-15.3153	9.0495
Self-Evaluated Resilience	1.74	81	.086	1.11	.640	-.162	2.384
Job Satisfaction	1.26	81	.210	1.09	.859	-.624	2.795
RFI	3.75	81	.000	11.850	3.163	5.5551	18.1449
Realistic Optimism	2.11	81	.038	15.217	7.219	.8532	29.5803
Emotional Intelligence	3.15	81	.002	13.838	4.391	5.101	22.5755
Relational Ability	2.65	81	.010	13.151	4.968	3.266	23.0358
Problem Solving Ability	2.24	81	.028	10.352	4.632	1.366	19.5672

There were no statistically significant differences in duration in job or industry, nor in self-evaluated resilience, nor in job satisfaction. One might have postulated that job satisfaction would be a significant contributor to resilience. This premise could be of interest for future study.

Table 24: Independent Samples Test: Comparison of Bottom 5% <u>Resilience Factor Inventory</u> Scores (N=4) to All Research Study Respondents (N=79)

Variable	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval for Mean	
						Lower	Higher
Years in Job	-.352	81	.726	-1.062	3.1067	-7.0687	4.9454
Years in Org.	.079	81	.937	.448	5.689	-10.8000	11.6967
Years in Industry	-.711	81	.479	-4.340	6.1061	-16.4988	7.8188
Self-evaluated Resilience	-.842	81	.402	-.53	.629	-1.783	.723
Job Satisfaction	-1.98	81	.052	-1.61	.815	-3.232	.012
RFI	-5.96	81	.000	-16.199	2.7173	-21.6098	-10.7882
Realistic Optimism	-3.36	81	.001	-23.598	7.0226	-37.5818	-9.6142
Emotional Intelligence	-3.70	81	.000	-14.822	4.0095	-22.8063	-6.8383
Relational Ability	-4.50	81	.000	-20.222	4.5038	-29.1906	-11.2540
Problem Solving Ability	-4.05	81	.000	-17.114	4.2288	-25.5350	-8.6937

As with the top 5%, the bottom 5% contingent differed significantly in the RFI (d, t(81) = -5.96, p < .01) and the four individual factors. The resiliency factor with the greatest difference was relational capacity (d, t(81) = -4.49, p < .01).

Similar to the top 5%, no other variables differed significantly, likewise including job satisfaction.

Of the top 5% leaders, half came from higher education (50%). When expanded to the top 10% resilient leaders, higher education represented 62.5%. Of the lower 5%, the higher education group again equaled 50%. When increased to the bottom 10%, the distribution was similar over the three samples (37.5% higher education, 37.5% business, and 25% Pre K – 12).

Summary

This chapter has presented an analysis of the data collected from 83 leaders in Central Florida who operated in educational and business realms. The Resilience Factor Inventory (RFI) from Adaptiv Learning was used to develop the profile of the respondents and to determine their resilience levels, focusing on the four particular factors identified in the Review of Literature: (a) emotional intelligence, (b) realistic optimism, (c) problem-solving abilities, and (d) relational abilities. The responses were used to answer the research questions which were the foundation of this study. Conclusions drawn from the data analysis and recommendations for cultivating resilience in leaders are presented in Chapter 5, along with suggestions for further research.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provides a review of the problem statement, methodology, instrumentation, and data analysis for the study on resilience in Central Florida leaders in education and business. A summary and discussion of the findings of each research question are included, as well as conclusions derived from the findings, implications, and recommendations for cultivating leadership resilience, along with suggestions for future research.

Problem Statement

The problem of this study was to (a) identify some of the unique factors of resiliency necessary for leadership, (b) to examine the resiliency of local leaders in education, as well as in business, and (c) to determine effective strategies to maintain that resilience amid the challenges of leadership. This study contributes to the body of knowledge by addressing the shortage of research which connects leadership and resilience.

Methodology

Population

The population of this study was comprised of 2,573 leaders in Central Florida in the Fall of 2007. These leaders came from three realms: (a) Pre K – 12 public school leaders from seven Central Florida school districts, (b) administrative and department leaders from two metropolitan Orlando universities, and (c) leaders from the business community in the greater Orlando vicinity.

Four emails were sent to 646 randomly selected leaders from this population. One was an introductory email explaining the purpose and value of the study, and alerting the chosen leaders to a future email, which would enable them to participate in the research. The second email communicated the necessary explanations, complying with the University of Central Florida Institutional Review Board and a link to the Resilience Factor Inventory (RFI), to be taken on-line. The third and fourth emails were reminders of the study stressing the importance of participation, along with the link to the RFI.

Of the 646 emails sent, 192 were returned and considered undeliverable, either due to incorrect addresses or blocked by the addressees' host servers. The researcher assumed the remaining 454 emails were delivered and read. Each email provided the invited participants an opportunity to "opt-out", and two recipients so chose.

Eighty-three Resilience Factor Inventories were completed before the requested deadline, resulting in a composite response rate of 18.0% of delivered

emails. The response rate was highest from the business leaders (26.5%); leaders from higher education responded at 19.2%, and the Pre K – 12 school leaders responded at a rate of 10.7%. This lower rate for public school leaders was a potential threat to validity.

Instrumentation

The research was conducted using the <u>Resilience Factor Inventory</u> (RFI), a 60-item questionnaire developed by professors Revich and Shatte at the University of Pennsylvania. The inventory measures seven resilience factors and is valid and reliable. The RFI is taken on-line through a secure website by Adaptiv Learning. Demographic data is captured as the participant registers for the inventory. At the conclusion of the inventory, the participant is provided a summary graph of her/his resilience score and individual resiliency factors, along with suggestions for development.

Dr. Shatte graciously provided the researcher permission to use the Resilience Factor Inventory. Along with access to the RFI, Dr. Shatte and Adaptiv Learning culled their data for respondents for this research project, and provided the data distilled by resiliency factor. The researcher assumes that all respondents to this study were passed through to the researcher.

Data Analysis

The inventory data were entered into an SPSS database and analyzed using the statistical analysis software SPSS Version 16.0 for Windows.

Descriptive statistics provided a profile of the composite group, as well as each of the three sampled groups. Each group was analyzed for their overall resilience and component resilience factors, including comparisons to the national norms using t-tests.

To determine differences between the three populations, an ANOVA analysis was run on the three samples. Statistically significant differences were addressed. Additional analyses were run to examine the potential impacts of gender and longevity. Further analysis was made to determine any significant correlations. Additionally, an examination was completed of "outliers", i.e. respondents that are in the upper or lower 5% of the leaders sampled.

<u>Summary and Discussion of Findings</u>

With increasing challenges in the fast-paced worlds of leadership in education and business, resilient leadership – leadership that is equipped to deal with the complexities of work and life – will be increasingly important. What makes a resilient leader, how to cultivate further resilience in oneself as a leader, and others around the leader, should be an important focus for contemporary leaders.

This study sought to evaluate the resiliency of Central Florida leaders in education and business, examine what unique factors might exist within each leadership realm, and discover possible contributing factors for the development of resilience. The following sections summarize the findings for each of the four research questions which framed this study.

Research Question 1

What is the "resiliency" of Pre K – 12 educational leaders in Central Florida on the four scales identified in the Review of Literature: (a) realistic optimism, (b) emotional intelligence, (c) relational ability, and (d) problem-solving ability?

The Pre K – 12 resilience inventory participants from 7 Central Florida school districts were a smaller response group - 20.5% of the entire study. Yet, they represented a statistically significant group of resilient leaders. This sample group of leaders had been in their present jobs (8.3 years) longer than the other two populations (5.0 years). In addition, they had worked with their present districts longer (21.4 years versus 8.7 years), and in the public education realm longer (26.4 years versus 13.9). This group appeared to be satisfactory representatives of resilient leadership.

This expected resilience was born out in their overall resilience as measured by the Resilience Factor Inventory (76, sd = 6.6), which was significantly higher than the national norm (71). This was also true for three of four individual resiliency factors evaluated by this study: (a) realistic optimism (76.7, sd = 13.6 versus a national norm of 66), (b) emotional intelligence (83.0, sd = 8.3 versus a national norm of 75.5), and (c) relational ability (78.7, sd = 10.3 versus a national norm of 71).

Only the resilience dimension of problem-solving did not have a statistical difference for the Pre K – 12 educational leaders. While slightly higher than the national norm (72.3, sd = 8.1 versus a national norm of 71), the difference was not significant. One could infer that Pre K – 12 leaders could improve their

problem solving skills, in order to further increase their resilience. Since this sample already possessed significant longevity, problem solving may be less important in contrast to the other, more "people-oriented" resiliency factors.

Research Question 2

What is the "resiliency" of leaders in higher education in Central Florida?

Leaders from higher education were randomly selected from academic and administrative department heads from two institutions in Central Florida: a substantial, public research university, and a private, liberal arts, Master's-degree granting college. The sample represented 42.2% of the respondents analyzed, and was considered representative of the greater higher education population.

These respondents had lower tenures in current positions, organizations, and the higher education "industry" than the study's mean. The respondents had significantly higher resilience than the national norm, indicating that this sample group is another resilient population. This sample also had the highest self-rated job satisfaction score of the three samples.

The higher education leaders had a higher <u>Resilience Factor Inventory</u> (75.2, sd = 7.3) score than the national population (71). As with the Pre K – 12 educational leaders, this group had statistically higher scores for the same three factors: (a) realistic optimism (75.5, sd = 7.3 versus a national norm of 66), (b) emotional intelligence (83.6, sd = 8.65 versus a national norm of 75.5), and (c) relational ability (76.8, sd = 10.6 versus a national norm of 71).

As with the Pre K – 12 leaders, this population scored slightly higher, but not of significance, for the problem-solving factor, 72.3, sd = 8.1 compared to the national norm of 71. Once again, problem solving may be an area for higher educational leaders to cultivate to enhance their resilience. While this sample of education leaders had lower longevity than the Pre K – 12 sample, the scores and resiliency factor strengths were very similar, which might indicate that those strengths (and weaker areas) are common to resilient leaders in the educational realm, regardless of level.

Research Question 3

What is the "resiliency" of business leaders in Central Florida?

The sample of business leaders (37.3% of the study), a cross-section of leaders from diverse industries (consultants to entrepreneurs), were also found to be a resilient population. Similar to the higher education leaders who have had average duration in their jobs, organizations and industries, this business sample showed resiliency measures higher than the national norms in all areas. This sample was slightly lower than both educational samples in the resiliency factors, with the exception of problem-solving. Also, this sample rated themselves lower in job satisfaction and resilience, compared to the other samples in the study.

The Central Florida business leaders demonstrated their overall resilience with an RFI score of 74.0 (sd = 5.9), which was significantly different from the national norm (71) d, t(30) = 2.83, p < .01. This sample was also statistically higher in three of the four individual factors. Like the educational samples, this

group was significantly higher in realistic optimism, 77.8 (sd = 13.3) compared to the national norm of 66, and relational ability, 76.4 (sd = 9.5) versus the comparative mean of 71. Unlike the education groups, the business leaders were statistically stronger in problem-solving, 75.2 (sd = 8.0), in contrast to the RFI comparative norm of 71. Furthermore, unlike the leaders from the educational realms, this group did not have a significantly different emotional intelligence factor score, 78.1 (sd = 9.1) versus 75.5.

These two factors appear to be the differentiators between the educational and business arenas: Problem-solving capabilities are increasingly apparent in leaders in the for-profit realm. Emotional intelligence, important in any leadership realm, is less apparent in the business leaders, and therefore, could be an area for business leaders to cultivate to enhance their resilience.

Research Question 4

What differences, if any, exist between resilient leaders in education, both Pre K – 12 and higher education, and corporate business arenas?

To examine potential differences between the three groups, a one-way analysis of variation (ANOVA) was processed. In comparing the three groups, there were three factors that were significantly different: (a) years in present organization ($F_{(2, 80)} = 12.015$, $p < .01$), (b) years in present industry ($F_{(2, 80)} = 8.859$, $p < .01$), and (c) emotional intelligence ($F_{(2, 80)} = 3.667$, $p = .030$). The difference in years in present organization and industry could be attributed to high values for the Pre K – 12 sample. In comparison to the other two samples, these durations were significantly higher.

Emotional intelligence was a differentiator between the educational

leaders and the business leaders, as already discussed. This further analysis

indicates emotional competence in educational leaders, and should serve as

encouragement to business leaders to cultivate their emotional capabilities.

Additional analysis was made to determine if the significant difference in

emotional intelligence among educators could be ascribed to their longevity; i.e.

the longer a leader serves, the greater her/his emotional competencies have

been developed. Partial correlations revealed no significant link between

longevity and emotional intelligence. This can be explained by that fact that both

educational realms, Pre K – 12 and higher education, had statistically significant

different emotional intelligence scores, as well as have significantly different

duration in terms of years in their present organization and the educational

arenas.

Additional Findings

To further explore the significance of resilience in the Central Florida

leaders several additional analyses were processed. A regression analysis

examined any relationships between the Resilience Factor Inventory and the

other resiliency factors. The highest significant correlations with the RFI was

emotional intelligence (r = .789, p < .01) and relational abilities (r = .837, p < .01).

This further supports the previously discussed importance of emotional

competence, involving self awareness and management, as well as relational

management, as purported by Goleman (Goleman et al., 2002). Additionally, the

regression analysis revealed that there is no significant relationship between years in the organization and years in industry, and resilience or any of the resiliency factors. This supports the previously determined conclusion that longevity does not contribute to emotional intelligence.

To determine whether gender was a differentiator in resilience, an ANOVA, based on gender, was analyzed. The composite group was relatively evenly distributed, 52% female and 48% male. The results showed that there were not significant differences among the two groups, even though the female respondents had slightly higher values in all areas.

When exploring the data to determine how longevity might contribute to resilience, an analysis was made of participants who had been in their positions 10 years or more (16 respondents) and 15 years or more (6 respondents). There were no significant differences between those "long-servers" and the remainder of the composite sample, which was higher than the national norms.

Those who had led in their current roles 15 years or more did have a statistically significantly higher Resilience Factor Inventory score (81.6, sd = 4.9), d, $t(5) = 2.8$, $p < .05$. More significant, realistic optimism, 92.3 (sd = 8.6), d, $t(5) = 4.45$, $p < .01$ and relational capabilities, 90.3 (sd = 6.7), d, $t(5) = 4.23$, $p < .01$, surfaced as statistically higher than the balance of the study's participants.

While not statistically significant, there was a decline in the difference in problem-solving scores between the 10-year plus leaders and 15-year leaders. This may be a further indicator that problem-solving diminishes in importance the

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longer a leader serves, while the need for the other factors, such as optimism and relational capacity, increases.

A final analysis of a portion of the study's participants examined the top 5% (n = 4) and bottom 5% (n = 4)of <u>Resilience Factor Inventory</u> scores. While these differed significantly from the other participants in all the resiliency factors, neither group differed significantly in years in their current job, organization, and industry, nor in their self-evaluated resilience and job satisfaction. One might have presumed that one of the longevity factors would have been a differentiator, but apparently that is not the case.

<u>Conclusions</u>

This research study sought to (a) identify some of the unique factors of resilience that are hallmarks for long-serving, effective leaders, (b) examine the resilience quotient of Central Florida leaders in education and business, and (c) determine the most important factors, on which leaders may focus, to develop further resilience. Based on the Review of Literature and the research findings, the following conclusions have been derived:

1. It was concluded that emotional intelligence is the only significant difference between the studied populations. Based on the research samples, emotional competence was the only statistically different resilience factor.

2. It was concluded that resilient educational leaders have significant resiliency factors, and the greatest differentiator being emotional

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intelligence. This was true for both the Pre K – 12 sample and those involved in university leadership. Conceivably, due to the concept that leaders in education are "people producing people through people", this group apparently requires increased emotional competency, in order to be an enduring leader.

3. It was concluded that the resilience factor that differentiates business leaders is problem-solving. While educators are "people producing people", business leaders are "people producing project and products", an endeavor which involves a greater need for solving system-related problems, as well as people "problems".

4. It was concluded that since neither educational samples was statistically higher in problem solving, development in this area could enhance an educational leaders' effectiveness.

5. It was concluded that since emotional intelligence was not statistically higher for the business leader sample, cultivating one's emotional intelligence skills could increase her/his resiliency as a business leader.

6. It was concluded that, coupled with emotional intelligence, which correlated significantly high with the composite <u>Resilience Factor Inventory</u> score, relational abilities are critical to cultivating resilience in leaders. These emotionally intelligence skills involve both appropriately managing a multitude of relationships, and providing adequate personal relational support. Relational capacity,

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too, correlated highly with the RFI. To summarize, the higher one's relational abilities, the higher their overall resilience. Additionally, relational capacity also surfaced as a hallmark of those leaders who have led longest. The examination of those leaders who have been in their positions 15 years or longer, revealed statistically higher relational skills.

7. It was concluded that gender does not affect resilience. One might conclude that females who may have greater relational strengths, or males with greater problem-solving strengths, might be a differentiator. The analysis indicates that gender is not a factor.

8. It was concluded that years in one's current position, years with his/her current organization, and years in the industry did not influence resilience. The research revealed that longevity did not contribute to resilience. This was demonstrated in the two educational populations who had the same resiliency strengths, yet had different average lengths in their jobs and organizations.

9. It was concluded that job satisfaction was not a predictor of resilience.

Recommendations for Practice

The findings of this study, including the Review of Literature, provide some insights and implications for the application of this research. The following

recommendations, based on the review of the research, conclusions, and limitations, are:

1. Cultivate a culture of resiliency by increased the attention in educational institutions and businesses, to developing resilience in its leaders. Due to the high cost of turnover and replacing effective leaders, enterprises could improve productivity by being intentional in attending to this critical realm. Presently, the development of resilience appears to be at the sole initiative of the individual leader.

2. Equip leaders to develop the four resilience factors: (a) realistic optimism, (b) emotional intelligence, (c) relational abilities, and (d) problem-solving capabilities. Providing institutional training and support would certainly increase individual and organizational effectiveness.

3. Test potential leadership for resilience. When considering candidates for initial or future leadership, evaluation using the Resilience Factor Inventory would be helpful in order to determine a leader's propensity for resilience, and to flag areas that should be cultivated. This could provide supervisors with additional criteria for selection and placement in a position appropriate to their resilience factors with an appropriate supervisor. Additionally, the RFI would identify resiliency strengths on which to capitalize, bringing out what has already been built in. This knowledge would also provide insight into areas to enhance to become a leader that lasts.

4. Give attention to the development of emotional intelligence among existing organizational leaders. While all resilience factors were shown to be important, emotional competence was a distinguishing factor contributing to resilience, seen especially among leaders in education. Education, even in business, is an important part of any leader's job description.

5. Specifically, business leaders should be intentional about cultivating emotional competencies. EQ was the one factor that was not statistically higher for the business leaders' sample. This could be their key to further resilience.

6. Educational leaders can enhance their resilience by increasing their problem-solving abilities. Problem-solving was the one dimension in which both educational populations were not significantly different from the national norm. Attention to building this skill could further strengthen already resilient leadership.

7. Younger leaders who wish to lead with longevity would do well to cultivate realistic optimism and relational support. The research revealed that the hallmarks of those serving as leaders the longest are realistic optimism and relational support and abilities.

<u>Recommendations for Further Research</u>

Based on the literature review and the analysis of the results of this study, the following opportunities for future research include:

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1. Conduct further study on age and emotional intelligence.

2. Determine the effect of working in Central Florida. All three samples had higher resilience scores than the national norms. Investigate if the scores are higher due to working in Central Florida.

3. Examine why job satisfaction was not highly correlated with resilience.

4. Also, investigate why job satisfaction did not correlate with longevity.

5. Compare any differences between private college and public institution leaders.

6. Similarly, compare differences between principals at elementary, middle, and high school levels.

7. Further explore why educators are not as strong in problem solving. Determine if problem solving it really not as necessary in the educational arenas.

APPENDIX A

RESILIENCE FACTOR INVENTORY

Adaptiv

Adaptiv Learning Systems

Resilience Factor Inventory (RFI)

July, 2002

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Instructions

Please complete the following 60-item RQ Measure. Rate each item for how true it is of you by filling in the appropriate circle. It should take you less than 15 minutes to complete this questionnaire.

When you answer these questions, focus on the last 12 months. Then, use the scale below to indicate how much each item applies to you.

An example survey item:

Item Number	Please carefully respond to each survey item below.	Not at all true	Sometimes or somewhat true	Moderately true	Usually true	Very or often true	Don't know
18	People describe me as an emotional person.						

In the above example, fill in the circle that best indicates how true this statement is of you.

Please try and respond to all of the items.

Thank you for your participation.

Item Number	Please carefully respond to each survey item below.	Not at all true	Sometimes or somewhat true	Moderately true	Usually true	Very or often true	Don't know
1	When I am faced with obstacles, I remember times I faced similar hurdles and overcame them.						
2	When faced with a problem, it is not important to me to understand what caused the problem, I care only about finding a solution.						
3	I enjoy doing routine simple tasks that do not change.						
4	I am aware of the nonverbal messages people send to me.						
5	I do not have a clear strategy for achieving my goals.						
6	When trying to solve a problem, I trust my instincts and go with the first solution that occurs to me.						
7	I react in a manner that seems out of proportion to the situation.						
8	The costs associated with my line of work seem too great.						
9	I do not spend much time coming up with ideas about what caused a problem.						
10	When I get upset, I know it.						
11	I don't need people to think I'm better than most at my job.						
12	I look at challenges as a way to learn and improve myself.						
13	I've been told I misinterpret events and situations.						
14	I have a good sense of my core values and their effect on how I perceive a situation.						

Item Number	Please carefully respond to each survey item below.	Not at all true	Sometimes or somewhat true	Moderately true	Usually true	Very or often true	Don't know
15	I would rather do something at which I feel confident and relaxed than something that is quite challenging and difficult.						
16	By looking at their facial expressions, I recognize the emotions people are experiencing.						
17	I get the urge to give up when things go wrong.						
18	I am good at controlling my emotions.						
19	When a problem arises, I come up with a lot of possible solutions before trying to solve it.						
20	I recognize my own emotions as I experience them.						
21	What other people think about me does not influence *my* behavior.						
22	When a problem occurs, I am aware of the first thoughts that pop into my head about it.						
23	I feel most comfortable in situations in which I am not the only one responsible.						
24	I prefer situations where I can depend on someone else's ability rather than my own.						
25	I believe it is important to be as optimistic as possible, even if it means not seeing a situation 100% accurately.						
26	I think it is better to believe problems are controllable, even if that is not always true.						
27	I often seem to react too strongly to situations.						
28	It is difficult for me to understand why people feel the way they do.						
29	I can easily detect the emotions of those around me.						
30	I understand my own emotions.						

Item Number	Please carefully respond to each survey item below.	Not at all true	Sometimes or somewhat true	Moderately true	Usually true	Very or often true	Don't know
31	When someone overreacts to a problem, I think it is usually because they are just in a bad mood that day.						
32	I expect that I will do well on most things.						
33	People often seek me out to help them figure out problems.						
34	I feel at a loss to understand why people react the way they do.						
35	I am good at identifying what I'm thinking and how this affects my mood.						
36	When I do a job, I do it well.						
37	My emotions affect my ability to focus on what I need to get done at home, school, or work.						
38	I believe that hard work always pays off.						
39	I am able to keep my emotions and behavior in check.						
40	For me, knowing I've done something well is more important than being praised by others.						
41	I try to imagine the outcome I am looking for and this seems to help me get what I want.						
42	I have good control over how I feel and what I do.						
43	If someone is sad, angry, or embarrassed, I have a good idea what he or she may be thinking.						
44	If something happens at work that upsets me, I am able to wait until an appropriate time when I have calmed down to discuss it.						
45	I am good at shutting out anything that distracts me from the task at hand.						
46	If my first solution doesn't work, I am able to go back and continue trying different solutions until I						

Item Number	Please carefully respond to each survey item below.	Not at all true	Sometimes or somewhat true	Moderately true	Usually true	Very or often true	Don't know
47	I am curious.						
48	I know what I need to do to reach my goals.						
49	My emotions affect my ability to work.						
50	I do not plan ahead in my job.						
51	It is difficult for me to remain focused when I have personal problem outside of work.						
52	If someone at work is upset, I have a pretty good idea why.						
53	I believe that in order to adapt to change it is better to react after it occurs than to spend time planning ahead for it.						
54	I am able to keep separate problems at work and home.						
55	I enjoy tasks which are difficult for me.						
56	I prefer doing things spontaneously rather than planning ahead, even if it doesn't work out well.						
57	My first impression about a situation is usually close enough to being accurate.						
58	I feel most confident when I have a plan and follow it.						
59	I don't feel confident that I've done a good job until someone I respect tells me so.						
60	I find it difficult to stop my thoughts from interfering when I'm working.						

Thank you for your participation and time.

Adaptiv

Registration Questions:

1. **First Name:**

2. **Last Name:**

3. **Company Name:**

4. **Position Title (or Level):**

5. **Email Address:**

6. **Email Address (Confirm):**

7. **Years in current organization**

8. **Years in current position:**

9. **Years in this industry:**

10. **Level of Education:**

11. **Your gender:**

12. **Please rate yourself on a scale of 1 to 10 (1= low and 10= high) on how resilient you think you are:**

13. **Please rate yourself on a scale of 1 to 10 (1= low and 10= high) on how satisfied you are, overall, in your job:**

Note: Research Items 7 – 13 were provided to the researcher for this study.

APPENDIX B

RESILIENCE FACTOR INVENTORY – VALIDITY DOCUMENTATION

Adaptiv Learning Systems

Resilience Factor Inventory (RFI)

About the RFI

The Resilience Factor Inventory, or RFI, is a 60-item inventory that measures an individual's current level of resilience. The RFI taps the 7 basic factors, inner strengths, or abilities, that comprise resilience. It can be used as a self-report inventory, but also has a 360° assessment version (in which case the 60 items are completed by the target test-taker, her direct reports, her peers, and her supervisors).

The self-report version is easily completed online within 10-15 minutes. Upon completion, the test-taker may receive an instant and automatic profile of their scores across the 7 factors. In the event that the client does not wish the test taker to see her results, the data can be withheld.

The 360° version allows for a comprehensive view of the individual's current level of resilience from several perspectives within her work environment. The test-taker receives a detailed RFI profile which includes the following sections:

- *Interpreting Your Feedback* – a guide to what you'll see in your report

- *Resilience Factors Reference* – a list of the factors measured in the survey

- *Data Validity* – a summary of the source and quality of the feedback data, as well as the agreement within rater groups

- *Inventory Summary* – a summary of your strengths and areas of improvement across all factors

- *Resilience Factors Detail* – definitions and scored by rater group for each factor

- *Your Strengths (Factors)* – a ranking of your highest-scoring factors, with scores by rater group

- *Areas for Development (Factors)* – a ranking of your lowest-scoring factors, with scores by rater group

- *Your Strengths (Items)* – a ranking of your highest-scoring items, with a list of corresponding factors as well as scores by rater group

- *Areas for Development (Items)* – a ranking of your highest-scoring items, with a list of corresponding factors as well as scores by rater group

- *Item Frequency Report* – a distribution of ratings by rater group for each item in the inventory

The RFI is a stand-alone instrument. However, armed with the RFI Profile, the test-taker is better equipped to maximize the benefit of other Adaptiv products, such as Adaptiv Training for Corporations® and Adaptiv Coaching for Excellence®. For more information on other Adaptiv products, please visit our website at www.adaptivlearning.com

The Development of the RFI

Work on the RFI began in 1997 in Adaptiv's research lab at the University of Pennsylvania. The psychometric analyses, led by Psychology Professor Dr. Andrew Shatté, followed the state-of-the-art procedure for developing an instrument.

- ❑ In 1997, 260 items were assembled that comprehensively tapped the construct of resilience, based on research application as well as dictionary and vernacular uses.
- ❑ These items sampled from the resilience applications of Overcoming, Steering Through, and Bouncing Back as described in the research literature.
- ❑ Based on new research at the University of Pennsylvania into the non-remedial, positive aspects of resilience, 40 items were included that sampled ability to assess risk, take on challenges and opportunities, and develop strong relationships with others – the Reaching Out application of resilience.
- ❑ Approximately 1,000 people were administered this comprehensive inventory
- ❑ Exploratory Factor Analyses were conducted to uncover the solution that best fit the data
- ❑ Experimented with various factor rotations to uncover independent (orthogonal) factors
- ❑ Experimented with different solutions to uncover optimal number of factors (eigenvalue scree test)
- ❑ 7 factor solution emerged strongly
- ❑ Chose 60 items that loaded most strongly on the 7-factor solution
- ❑ This is the Resilience Factor Inventory (RFI)
- ❑ The RFI normative sample now numbers at more than 4,000
- ❑ Confirmatory Factor Analyses demonstrate that the 7-factor solution remains stable

Developing the RFI 360

In 2002, Adaptiv partnered with the Hay Group to convert the RFI into a 360°
assessment. In addition, Hay developed an on-line version of the RFI to facilitate ease of
administration, automatic scoring, and the almost instantaneous production of the RFI
Profile.

Criterion Validity of the RFI

Research has established that the RFI does measure what it purports to measure –
the individual's resilience as it predicts performance. The *criterion validity* of the RFI
has been demonstrated in two ways – in tests of the *concurrent validity* and *predictive
validity* of the measure.

Concurrent Validity of the RFI

The psychometricians who designed the RFI have had many years experience in
the training, coaching, and consulting industries. Their experience within the sales arena
clearly indicated the following hypotheses:

    i.   resilience is a critical competency for frontline salespeople

    ii.   for cold-calling sales, the resilience factor of Empathy, which is important
in functions with long-term relationship will be less focal. The resilience
factors of Emotion Regulation and Impulse Control will be essential to
successfully negotiate the cold call or cold visit. The resilience factor of
Causal Analysis will be core to correct interpretation of feedback from
potential clients, in order to adjust their pitch – delineating those aspects
of their performance over which they can exert control. Self Efficacy and
Optimism will be important to remain perseverant through the inevitable
rejection of the sales environment.

    iii.   Since sales managers are typically chosen from among the best
salespeople, within any organization at any one time, their sales managers
will show higher levels of resilience than the salespeople they manage on
the 6 of the 7 factors specified above.

Test of the hypotheses

A team of frontline salespeople and the managers to which they reported completed the RFI. The scores on each factor as well as an average across all 7 factors (RQ) are provided in the figure below.
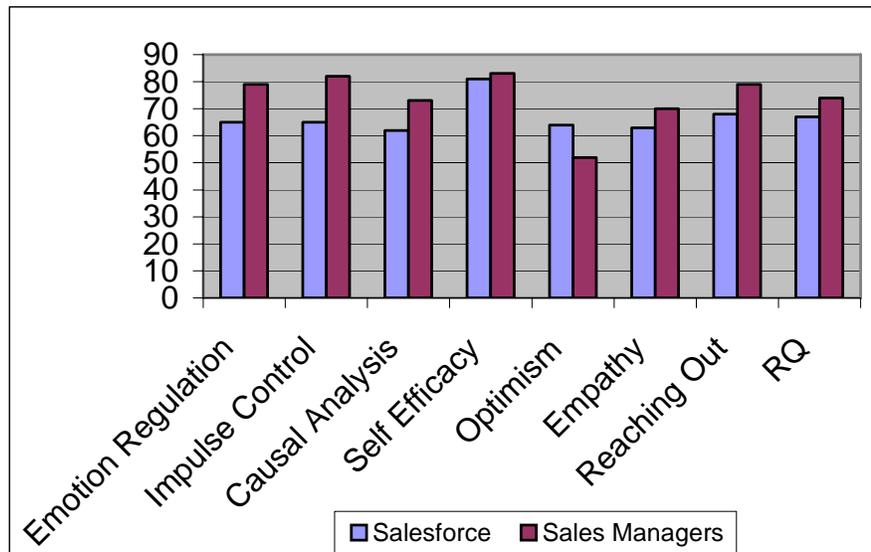
The most stringent test of the statistical significance of these group differences is through Multivariate Analysis of Variance (MANOVA), an inferential statistic designed to handle multiple dependant variables (multiple t-tests could be run to assess the differences between the groups on each factor but this would inflate experiment-wise error rate).

Results of MANOVA analyses are as follows:

Emotion Regulation: Sales managers are significantly higher than salespeople on this factor

$$F_{(1,25)} = 7.14, p=.013.$$

Impulse Control : Sales managers are significantly higher than salespeople on this factor

$$F_{(1,25)} = 12.17, p=.002$$

Causal Analysis:	Sales managers are significantly higher than salespeople on this factor

$$F_{(1,25)} = 12.17, p=.002$$

Self Efficacy:	No statistically significant difference
Optimism:	No statistically significant difference
Empathy:	No statistically significant difference
Reaching Out:	Sales managers are significantly higher than salespeople on this factor

$$F_{(1,25)} = 13.39, p=.001$$

RQ:	Sales managers are significantly higher than salespeople on this factor

$$F_{(1,25)} = 7.17, p=.013$$

This study demonstrates the Criterion Validity of the RFI – that the RFI can delineate two samples that, *a priori*, are hypothesized to differ on the factors, or abilities of resilience.

Predictive Validity of the RFI

Sales in one arena in which the criterion validity of the RFI is easy to assess, since there is such a direct link between the behaviors of the salesperson and a measurable bottom line. The predictive validity of the RFI has been demonstrated in portfolio sales in the investment industry.

In this test of predictive validity, new hires in a large investment portfolio company were administered the RFI. They received no Adaptiv Training for resilience. There performance was monitored across the first 9 months on the job. The hypotheses were:

i. The more resilient the salesperson at Time 1, the more orders they would have received by the 9-month point.

ii. The more resilient the salesperson at Time 1, the more referrals they would glean by the 9-month point.

iii. The more resilient the salesperson at Time 1, the more customers they would generate through cold calling and/or cold door knocking after 9 months.

iv. The more resilient the salesperson at Time 1, the more $ sales they would make by the 9-month mark.

Tests of the hypotheses:

i. Resilience Quotient, an average score across the 7 factors, predicted the number of orders they generated ($r = .36$, marginally significant at $p=.097$)

ii. Resilience Quotient predicted the number of referrals they generated ($r = .38$, marginally significant at $p=.074$)

iii. Resilience Quotient predicted the number of customers they generated ($r = .43$, significant at $p=.041$)

iv. Resilience Quotient predicted Gross Commission ($r = .44$, significant at $p=.033$)

APPENDIX C

RESILIENCE FACTOR INVENTORY - WEBSITE SECURITY STATEMENT

Website Security Statement

The Resilience Factor Inventory® is provided and administered by Adaptive Learning. Regarding their security, Adaptive Learning provided the following:

"During the development of the online Resilience Factor Inventory (RFI), our application designers and programmers took the necessary steps to make the test as secure and hardened as possible through the use of a number of published coding standards. The software environment is a Microsoft.NET programming platform. The RFI data repository is a Microsoft SQL data base, password protected and accessible only by authorized users at Adaptiv Learning Systems. The server on which the RFI and data repository reside are managed and maintained by our hosting company, which applies any necessary upgrades and exploit fixes when they released.

As a corporate policy, Adaptiv Learning Systems will never share any specific information, e.g., testee names and other demographic information, with anyone, without the express written permission of the testee."

APPENDIX D

INTRODUCTORY EMAIL

Subject: Important Leadership Study

Central Florida Leader,

A few days from now you will receive, via email, a request to fill out a brief questionnaire for an important research project being conducted for a doctoral study at the University of Central Florida.

It concerns **leadership** and how to develop **resilient leaders** for our schools and businesses.

I am writing in advance because we have found many people like to know ahead of time that they will be contacted. This study is an important one that will help educational and for-profit organizations cultivate resilient leaders to better lead their institutions and our communities.

You can help us with approximately 10 minutes of your time to answer 60 questions on a survey that will be emailed to you. The subject line on the email will read, "***Resilient Leader Inventory Invitation***".

As a "thank you" for your participation, you will have an opportunity to view and print your Resilience scoring graph with an explanation page.

Thank you in advance for your time and consideration. It is only with the generous help of leaders like you that our research can be helpful.

Sincerely,

Craig Domeck
Doctoral Student
University of Central Florida

APPENDIX E

INVITATION EMAIL

University of Central Florida

Leadership Study

3dleadership@bellsouth.net   **407/491-4733**

Subject: Resilient Leader Inventory Invitation

Central Florida Leader,

Your leadership can help others!

I am writing to ask your help in a doctoral study of leaders for the **University of Central Florida**. This study is part of an effort to learn how to develop **resilient leaders** for our communities.

Results from the survey will be used to help leaders in education and business further develop resilient leaders to better lead their institutions and our communities, adding value to our Central Florida region and making it a better place to learn and live.

- You can help us very much by taking about 10 minutes to share your experiences and thoughts regarding **leadership and resilience** in leaders.
- The purpose of the study is to learn what factors contribute to **resilience in leaders**.
- This <u>survey is voluntary</u>.
- You must be at least 18 years old to participate in this study.
- **At the conclusion of the questionnaire, you will receive your personalized Resilience Inventory scoring graph and explanation page as a "thank you".**
- Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified.
- Submission of a completed questionnaire serves as consent to participate in this study.
- While there is minimal risk of breach of confidentiality, we will be maintaining the list solely for the purpose of this study and will be destroying the list at the conclusion of the study (December 15, 2007).
- This survey is available for online completion.
- Please go to: **http://rfi.adaptivlearning.com/entry.aspx?id=ABC123**
- If you have any questions or comments about this study, we would be happy to talk with you. Our local number is 407/491-4733, or you can contact us at the email address above.
- My University of Central Florida doctoral advisor, Dr. Ken Murray, may be contacted at murray@mail.ucf.edu.
- Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (IRB). Questions or concerns about research participants' rights may be directed to UCF Institutional Review Board Office at the University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246. The phone numbers are 407-823-2901 or 407-882-2276.

The survey is available for a limited time. Please complete the survey by no later than (due date).

- Again, to complete the survey online, go to: **http://rfi.adaptivlearning.com/entry.aspx?id=ABC123**.
- If for some reason you prefer not to respond, please let us know by returning this email with a request to "remove".

Thank you very much for helping with this important study.

Sincerely,

Craig Domeck
Doctoral Student
University of Central Florida

APPENDIX F

FIRST REMINDER EMAIL

Subject: Reminder: Resilient Leader Inventory Invitation

Central Florida Leader,

Last week a questionnaire seeking your opinions on resilient leaders was emailed to you. Your name was drawn randomly from a list of leaders in Central Florida in education and business.

To our knowledge, you have not completed the Resilience Study Questionnaire.   Would you help us, please, by doing so today? We are especially grateful for your help because it only by asking people like you to share your experiences that we can identify the hallmarks of effective and resilient leaders.

As a "thank you" for your participation, you will have an opportunity to view and print your Resilience scoring graph with an explanation page.

Again, this survey is available for online completion and can be found at:

http://rfi.adaptivlearning.com/entry.aspx?id=ABC123.

The survey is available for a limited time. Please complete the survey by no later than (due date).

If you have any questions or comments about this study, we would be happy to talk with you. Our local number is 407/491-4733, or you can contact us at the email address above.

Thank you very much for helping with this important study.

Craig Domeck
Doctoral Student
University of Central Florida

APPENDIX G

LAST REMINDER EMAIL

Subject: Survey Extended: Resilient Leader Inventory Invitation

Central Florida Leader,

About three weeks ago, we emailed you a link to a questionnaire to you for a study of leaders for a doctoral study at the University of Central Florida. To the best of our knowledge, it is not yet been completed.

The comments from people who have already responded include some tremendous feedback regarding resilience in leaders. Many have described insightful experiences, both good and bad, that helped identify hallmarks of resilient leaders. We think the results are going to be very useful to leaders in education and business.

We are writing again because of the importance that your questionnaire has for helping to get accurate results. Although we emailed questionnaires to leaders throughout Central Florida, it is only by hearing from nearly everyone in the sample that we can be sure that the results are truly representative.

A comment on our survey procedures: Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified. While there is minimal risk of breach of confidentiality, we will be maintaining the list solely for the purpose of this study and will be destroying the list at the conclusion of the study (December 15, 2007). Protecting the confidentiality of people's answers is very important to us, as well as the University of Central Florida.

Again, this survey is available for online completion and can be found at:

http://rfi.adaptivlearning.com/entry.aspx?id=ABC123.

As a "thank you" for your participation, you will have an opportunity to view and print your Resilience scoring graph with an explanation page.

We hope that you will fill out and complete the questionnaire today, but if for any reason you prefer not to answer it, please let us know by replying to this email with "Remove". Thank you very much for helping with this important study.

Sincerely,

Craig Domeck
Doctoral Student
University of Central Florida

APPENDIX H

IRB COMMITTEE APPROVAL FORM

THE UNIVERSITY OF CENTRAL FLORIDA
INSTITUTIONAL REVIEW BOARD (IRB)

IRB Committee Approval Form

#06-4354

PRINCIPAL INVESTIGATOR(S):   Craig Domeck
(Supervisor – Ken Murray, Ph.D.)

PROJECT TITLE: **An Investigation to Determine the Perceptions of Resilience in Educational and Business Leadership Personnel**

[X] New project submission   [ ] Resubmission of lapsed project
[ ] Continuing review of lapsed project #   [ ] Continuing review of #
[ ] Study expires   [ ] Initial submission was approved by expedited review
[ ] Initial submission was approved by full board review but continuing review can be expedited
[ ] Suspension of enrollment email sent to PI, entered on spreadsheet, administration notified _____

Chair

[X] Expedited Approval

    Dated: **7/26/07**
      Cite how qualifies for
      expedited review: **#7**
      minimal risk and **#7**

[ ] Exempt

    Dated: _____
      Cite how qualifies for
      exempt status:
      minimal risk and _____

[X] Expiration Date: **7/25/08**

IRB Reviewers:

Signed: _____
      Dr. Tracy Dietz, Chair

Signed: _____
      Dr. Craig Van Slyke, Vice-Chair

Signed: _____
      Dr. Sophia Dziegielewski, Vice-Chair

Complete reverse side of expedited or exempt form
[ ] Waiver of documentation of consent approved
[ ] Waiver of consent approved
[ ] Waiver of HIPAA Authorization approved

NOTES FROM IRB CHAIR (IF APPLICABLE): _____

_____

_____

_____

_____

_____

_____

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