MEASURING RESILIENT CHARACTERISITICS OF TEACHERS

by

BETTY A. MORRIS

(Under the direction of Dr. Jo Blase)

ABSTRACT

The purposes of this study were to collect detailed data to measure the resilient characteristics of teachers with three or fewer years of teaching experience, and to reach a deeper understanding of the concept of resilient adults and how it applies to adults who are teachers with three or fewer years of teaching experience. The independent variables explored in this study were the personal and professional descriptive characteristics of the participants: (a) age, (b) gender, (c) presence of children under the age of eighteen, (d) marital status, (e) exercise frequency, (f) level of education, (g) combination of teaching assignment, certification, and education of teacher, (h) years of classroom teaching experience, (i) school level, (j) level of religious or spiritual affiliation, (k) the level with which work and life are intertwined, and (l) self-ranking of general resilience. The dependent variables were the resilient characteristics of: (a) positive world, (b) positive self, (c) focus, (d) flexible thoughts, (e) flexible social, (f) organization, and (g) proactive.

The Personal Resilience Questionnaire*,* developed by ODR, was the instrument used for this study. This instrument was designed to measure the five characteristics of resiliency: Positive (divided into two categories; Positive: the world, and Positive: Yourself), focused, flexible (divided into two categories; Flexible: Thoughts, and Flexible: Social), organized, and proactive. The Personal Resilience Questionnaire (PRQ)

was completed as a self-report, pencil and paper questionnaire, or an online copy of the questionnaire. The member schools of the National Christian School Association represented the population for this study.

This study was designed as a foundation piece of research into the implications of resilience for teachers. The conclusions of this study reinforced the research on resilience and its impact on each individual's ability to successfully overcome tragedy.

INDEX WORDS: Resilience, Teachers, Schools, Education, Staff Development for Teachers, Private Schools, and New Teachers

MEASURING THE RESILIENT CHARACTERISTICS OF TEACHERS

by

Betty A. Morris

B.S.E., Southern Arkansas University, 1984

M.Ed., University of Georgia, 1998

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION

ATHENS, GEORGIA

2002

MEASURING THE RESILIENT CHARACTERISTICS OF TEACHERS

by

Betty A. Morris

Approved:

Major Professor: Dr. Jo Blase

Committee: Dr. Joseph Blase
Dr. Thomas Holmes
Dr. Karen Hunt
Dr. Sally Zepeda

Electronic Version Approved:

Gordhan L. Patel
Dean of the Graduate School
The University of Georgia
May 2002

DEDICATION

I would like to dedicate this work to my family.

My grandparents, although none of them were highly educated themselves, always demonstrated a deep respect for education. Even though finances were limited, each one of my grandparents encouraged and as often as possible provided opportunities for their children and grandchildren to become educated. All my life, their respect for education has been an inspiration. The seed planted by my grandparents has been a motivating factor in my pursuit of education.

Many of my family members have gone before me on this path: Savannah, Eddie, Kathy, Lea Anne, David, and Karen. Thanks for setting the pace and being a great example for me.

John and Diana, from the beginning I have felt your support and encouragement…Thanks for caring about me and for your encouragement.

I will never forget my parents' response when I asked them if I could get married at the ripe old age of 19. "Ok…BUT we want you to finish your education". Considering that I had only one semester of undergraduate work behind me at the time, I do not think they were thinking of this level of education with that comment. With this comment their desire for my continuing education became my own desire. Both of my parents have been, and I am sure will continue to be, amazing examples and inspiration for me. I dedicate this work to them not only for the encouragement and love of education that

they inspired in me but for all the countless hours helping to sort, staple, label, mail, and most of all pray that this mail-out would be the LAST one necessary to complete the seemingly never-ending search for participants in my study, and all the battles with every computer imaginable. I wish every child in the world had the opportunity to have you for parents. You are the best.

Connie and Stan, even though you did not understand at all why I wanted to do this, thanks for pitching in and helping me with some of the important things that I just could not find the time to do.

To my wonderful aunt, Trish, who was always ready to do whatever to help convince qualified teachers to participate in my study…I will always remember and appreciate your willingness to support and help me.

Mark. Your endless encouragement and support (domestic and otherwise) have been invaluable during these last 6 years. Thanks for putting up with the tantrums, never-ending worry, and my constant sense of being overwhelmed. Your willingness to do whatever, whenever has been the real reason I was able to complete this work. Thanks for being an incredible father during this process. Your patience and belief in me to complete this means more to me that you will ever know. Thanks for understanding and loving me for who I am…the math nerd who is almost completely helpless in any domestic arena. I have often struggled to find my place in this world, thanks for offering me a place in your heart, which has helped define my place in this world.

Ty. Your incredible heart, hugs, smiles, and future have helped me in the completion of this degree. I want so much for you. I want you to embrace life…every aspect of it. Yes, that includes education. Thanks for your love. I am proud to be your

mother…your friend. In my dreams, one day I will be reading the dedication page of your dissertation. Thanks for helping me to stay focused during this process…you were and are a constant reminder of what is really important in my life.

Aaron, Chase, Jake, Jon David, Michael, Niki, and Regan … You are next in line…I cannot wait to see what you path you choose to take with your life!

ACKNOWLEDGMENTS

(Please excuse the length; it definitely took a village to raise this child.)

I would like to take this opportunity to thank Dr. Jo Blase for helping me to see my potential. Through her encouraging spirit and fun-loving nature I began to see this degree as a possibility. She never showed any doubt about my ability to succeed and she worked hard to make it all seem fun. Dr. Jo's personal priorities for family and friends were also an example to me. Thanks for being an irreplaceable major professor.

I would like to thank my committee: Dr. Joseph Blase, Dr. Thomas Holmes, Dr. Karen Hunt, and Dr. Sally Zepeda for the time and effort it took to read and correct this math teacher's writing.

I would like to take this opportunity to thank Dr. Linda Hoopes and Lynn Laurens from ODR. Your encouraging spirit and constant kindness and patience through this lengthy learning experience have been invaluable. Thanks for always understanding and for your never-ending willingness to help. Thanks to all the people at ODR who helped create the instrument, Personal Resilience Questionnaire. My hope is that this is the first of many studies designed to help understand the resiliency of teachers. The knowledge and understanding of the resilient characteristics of teachers can only serve to enhance the working environment for the teachers, therefore the learning environment for all our children.

I would like to thank all of my colleagues at Greater Atlanta Christian School for the encouragement and support they have given me over the last few years. Thanks for all the helping hands and listening ears when I needed you. A special thanks to Kristy Winkes, Tammy Hughes, Jimmy Jones, Patty Mankin, & John Connel…you all are a great inspiration!

Dr. David Fincher; thanks for being a role model as a leader in a Christian school environment. Your dreams and plans made this degree a possibility for me. Thanks for being the "hook" I needed for participation in my study. A big thanks also goes to Diane Jones for caring about my work and trying in every possible way to help me.

I would also like to thank all my students over the last few years. You are the reason that I continue to love to learn. I am thankful for the opportunity to share your lives if even for a short time. Thanks for helping me remember that it is not about the "grade" but about the "knowledge". A special thanks to Mayer Jollay & Chris Maddox, Jessica Allen & Drew Henley, Lori Beth Morris & Ryan Fetz, and Maren O'Brien & Barrett Santi for all the extra time and patience you showed in working around all of this to create incredible Jr/Sr banquets for your peers.

I would also like to thank Mike Jordan in the Academic Computing Center for patiently helping me analyze this data.

I would also like to thank two other people who have worked diligently beside me for the last few years. Angie Gant and Ann Murphy, you two have been a lifesaver for me. The writing weekends in the mountains, the classes we shared, the tears and laughter we shared have made this time a memory that will last a lifetime. You and your families

will remain in my prayers forever. Good luck with your new degree…may it open the right doors for you. God Bless you and your family.

Misty…what can I say to express my feelings toward you. You are my twin. I am sure that the Lord could not have placed a better person in my life for this excursion than you. You have been my rock, my shoulder, my motivation over the rough spots, and my sense of humor when my own failed me. You have an incredible ability to serve others. Thanks for all the bad movies, chips and cheese dip, and the support through every presentation, writing assignment (ugh!), class, and all those long rides to Athens. Thanks for being the kind of female who knows how to change a flat tire. I know that no one thought we could do it together all the way…but I guess we showed them all. Thank goodness the Lord provided the opportunity for us to stay together, because I could not have done this without you. As math teachers, churchgoers, beanie baby haters, career mothers, future decorators and Martha Stewart wannabes, we are blood sisters. I look forward to sharing many more years with you. You will always be my best friend. I sincerely hope that the completion of this degree fulfills all of your hopes and dreams. I know that your parents will be very proud of you. Can you believe two old numbers girls like us are actually writing acknowledgments for our dissertation??? I still cannot believe it. ***What do you want to tackle next****?*

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

I dwell in Possibility -
A fairer House than Prose -
More numerous of Windows -
Superior for Doors.
Emily Dickinson (1862)

There is no education, outside of the classroom itself that can adequately prepare new teachers for the challenging task of teaching. Indeed, Chaddock (1999) found that approximately forty percent of educated teachers never enter the profession. Of the sixty percent who enter the profession, Chaddock (1999) found that "a third of these teachers will leave the profession within the first five years" (p. 1). Betancourt-Smith, Inman, and Marlow (1994) found that teachers cite their immediate atmosphere as the number one reason for leaving the field of education. "The attrition of teachers at the school level is of particular concern for maintaining continuity in, and quality of, schools' instructional programs" (Boe, Barkanic, & Leow, 1999, p. 1).

Yet, without quality teachers providing a quality-learning environment, learning is interrupted…perhaps halted. Gerstner (1994) stated, "if we don't have great teachers, we won't have great students. It's that simple" (p. 5). Understanding the complexity of teaching is essential for training and keeping quality teachers in the classroom. Sparks (1999) defined teaching in this manner:

> Teaching is a challenging intellectual activity that requires deep knowledge of academic disciplines, the ability to design interesting and challenging lessons for a wide variety of students, and the capacity to understand and appropriately apply educational research. Teachers must also be able to create nurturing environments for all students, communicate effectively with parents, and actively participate in a broader school community that sets the direction for the school's work among other important tasks. (p. 2)

Veenman (1984) referred to the transition from the ideals of beginning teachers to the reality of the classroom as "reality shock" (p. 143). For a new teacher, one with three or fewer years of experience, the challenges of the teaching profession remain a constant. The differences between the ideal teaching situation and the reality of an actual classroom can be brutal. Veenman (1984) defined 'reality shock' as the "collapse of the missionary ideals formed during teacher training by the harsh and rude reality of everyday classroom life" (p. 143).

Steffy, Wolfe, Pasch, and Enz, (1999) identified the induction period extending through the second or third year of teaching as the 'apprentice phase' (p. 21). Dealing with the realities of full-time classroom teaching is a common concern of teachers within the 'apprentice phase' (p. 64). Steffy, et al. (1999) found that one of the differences between student teaching and being the teacher working within the 'apprentice phase' was the isolation from the wisdom and guidance of another veteran teacher (p. 64). This difference creates a "well-deserved sense of accomplishment but an exaggerated sense of confidence and competence" (Steffy, et al., 1999, p. 64).

New teachers with three or fewer years experience face a daily challenge of finding their own reality. The changes and/or transitions that occur during the first three years of classroom teaching are infinite. "The transition from student teaching to being a classroom teacher is perhaps the most complex intellectual and emotional transition that occurs during a teacher's career" (Steffy, et al., 1999, p. 48). Gold (1996) found that few experiences in life have such a tremendous impact on the personal and professional life, as does the first year of teaching.

Ayers (1980) observed classroom behavior of teachers for a six-year period, from student teaching to the fifth year of experience in the classroom. Ayers (1980) found that the greatest change period for these teachers was between the first and third year of experience. After three or four years on the job, many teachers settled into a pattern of teaching that was relatively stable.

Dealing with the complexity of teaching (Sparks, 1999) and searching for the right balance between idealism and reality (Steffy, et al., 1999; Veenman, 1984), while being responsible for the learning environment of a classroom of students (Munson, 1991) must demand a professional with the personal ability to overcome incredible obstacles. Based on these findings, the resilient characteristics of teachers with three or fewer years of experience is valuable information for enhancing the ability of these teachers to thrive in the classroom instead of just survive or leave.

Background For the Study

Henderson and Milstein (1996) defined resilience as "the capacity to spring back, rebound, successfully adapt in the face of adversity, and develop social, academic, and vocational competence despite exposure to severe stress or simply to the stress that is

inherent in today's world" (p. 7). "Resilient people are those who are able not only to bounce back from changes but come through them even stronger and more capable than before" (Organizational Development Resources [ODR], 1994, p. 1). Benard (1996) included the concept of strong problem-solving skills as a part of resiliency.

> The ability to plan, enabling a sense of control and hope for the future; imagination or creativity, includes creating safe places in which to retreat; flexibility, the ability to see alternatives and attempt alternative solutions to both cognitive and social problems; and insight, includes intuitive awareness of environmental clues, critical thinking, awareness of the structures of oppression, and resourcefulness, which involves taking the initiative to reach out to outside resources (p. 14)

Characteristics of resilient people include: self-confidence, adaptability, willingness to take risks, problem-solving, hardiness, self-regulation, effort-full control, social competence, autonomy, sense of purpose, sense of coherence, optimistic, cooperative, inquisitive, self-righting tendencies, awareness and appreciation for the growth resulting from painful situations, faith, hope, reflection, initiative, creativity, and an incredible sense of humor which supports a realistic perspective of life (Benard, 1993; Blechman & Culhane, 1993; Block, 1993; Sagor, 1996; Warshaw & Barlow, 1995; Werner, 1984). According to Conner (1992), resilient people:

1. Display a sense of security and self-assurance that is based on their view of life as complex but filled with opportunity (Positive);
2. Have a clear vision of what they want to achieve (Focused);

3. Demonstrate a special pliability when responding to uncertainty (Flexible);
4. Develop structured approaches to managing ambiguity (Organized);
5. Engage change rather than defend against it (Proactive). (p. 238)

Statement of the Problem

Do adults who choose to teach demonstrate measurable resilient characteristics within the first three years of their career? Research indicates that new teachers experience many changes and transitions during their first few years in the classroom (Gold, 1996; Steffy, et al., 1999; Veenman, 1984). Yet, the resilient characteristics of adults who choose to teach have never been measured. The body of knowledge about resilience (Connor, 1992; Henderson & Milstein, 1996; Werner, 1984) and the impact that strengthening resilience (Benard, 1991; Krovetz, 1999; Montano, 1998; Rutter, 1988; Werner, 1990) can have on a person's ability to function in a changing world is growing. Munson (1991) described the impact of the learning environment for students in this manner. "The front of the classroom is a powerful place to be. The responsibility is awesome. You cannot teach and empower children to be successful if you do not hold yourself to be so. Everything you are and all that you believe is transmitted to your students at some level" (p. 5). Taking the body of knowledge regarding resilience, and combining it with the always present need for improving the learning environment for all students, the need for measuring the resilient characteristics of adults who choose to teach emerged. This study was a first step toward gathering knowledge about the resilient characteristics of adults who choose to teach.

Significance of the Study

Research has been done on children and adolescents that connect coping styles, verbal ability, problem-solving skills, and an ability to counter threats to self-esteem with a positive frame of mind (Hauser, et al., 1985; Hoopes, et al., 1993). Luther (1991) found positive correlations between resilient characteristics and characteristics of autonomy, empathy, task orientation, problem-solving skills, and curiosity in adolescents. Few studies involve measuring the resilience of adults. Only one study has been done to measure the resilient characteristics of some teachers: Glaser, Butler, and Pryor (1998) compared the resiliency of 200 elementary teachers to their fear of communication. This study concentrated on the specific connection between the fear of communication and the resilient characteristics of elementary school teachers. This study did not explore the resilient characteristics of adults who choose to teach by: age, gender, marital status, presence of children under the age of 18 in the home, years of experience, school level, education level, exercise frequency, the match between teaching assignment, certification and education, the degree to which a teacher's work and life intertwine, degree of religious or spiritual affiliation, and a teacher's ranking of their own general resilience.

Research outlines the characteristics of resilient people as: self-confidence, adaptability, willingness to take risks, the ability to plan with a sense of control and hope for the future, creative, cooperative, inquisitive, the ability to see alternatives and attempt alternative solutions to both cognitive and social problems (Benard, 1996; Blechman & Culhane, 1993; Block, 1993; Sagor, 1996; Warshaw & Barlow, 1995; Werner, 1984). The differences in the learning environment created for students by a teacher who possesses these resilient characteristics and the learning environment created for students

by a teacher who does not possess these characteristics could be phenomenal. Therefore, there was a need for a study that examined the resilient characteristics of teachers. This information provides valuable information for staff development, induction, mentoring, and the supervisory practices of teachers.

Purposes of the Study

The purposes of this study were to collect detailed factual data to measure the resilient characteristics of teachers with three or fewer years of teaching experience, and to reach a deeper understanding of the concept of resilient adults and how it applies to adults who choose to teach with three or fewer years of teaching experience. Within the profession of teaching the first few years seem to be some of the most challenging (Fuller, 1969; Ganser, 1995; Glassberg, 1979; Katz, 1972; Sprinthall & Thies-Sprinthall, 1983; Veenman, 1984). Therefore the intent of this study was to compare the characteristics of resilient adults found in teachers with three or fewer years of experience with specific regard to their experience in the classroom, marital status, presence of children under the age of 18 in their home, age, gender, school level, level of education, exercise frequency, the match between their degree and their teaching assignment and their certification, degree of religious and/or spiritual affiliation, the degree to which a teacher's work and life intertwine, and the teacher's own ranking of their general resilience. This information provides valuable information for staff development, induction, mentoring, and the supervisory practices of teachers.

Study Variables

The independent variables, which were explored in this study, were the personal and professional descriptive characteristics of the participants: (a) age, (b) gender, (c)

presence of children under the age of 18, (d) marital status, (e) exercise frequency, (f) level of education completed by the teacher, (g) combination of teaching assignment, certification in that field, and education of teacher in that field, (h) years of classroom teaching experience, (i) school level, (j) level of religious or spiritual affiliation, (k) the level with which work and life are intertwined, and (l) teacher's own ranking of their personal general resilience. The dependent variables that were explored were the resilient characteristics of: (a) positive world, (b) positive self, (c) focus, (d) flexible thoughts, (e) flexible social, (f) organization, and (g) proactive.

Research Questions

1. Is there a relationship between the age of a teacher: young (20-25 years), middle (26-30 years), and older (>30 years), and his/her resilient characteristics?
2. Is there a relationship between gender and a teacher's resilient characteristics?
3. Is there a relationship between the presence of children under the age of 18 in the teacher's home and the his/her resilient characteristics?
4. Is there a relationship between the marital status of a teacher and his/her resilient characteristics?
5. Is there a relationship between the exercise frequency of a teacher and his/her resilient characteristics?
6. Is there a relationship between the level of education completed by the teacher and his/her resilient characteristics?
7. Is there a relationship between the resilient characteristics of a teacher and the compatibility of his/her teaching assignment with certification and education?

8. Is there a relationship between the resilient characteristics of a teacher and the number of years of classroom teaching experience? (This study is limited to teachers with three or fewer years of experience.)
9. Is there a relationship between school level: Elementary (K – 5th grades), Junior High (6th –8th grades), and High School (9th – 12th grades), and the resilient characteristics of a teacher?
10. Is there a relationship between the self-described degree of religious or spiritual affiliation and the resilient characteristics of a teacher?
11. Is there a relationship between the degree at which a teacher's work and life intertwine and his/her resilient characteristics?
12. Is there a relationship between the teacher's self-rating of general resilience and the seven categories of measured resilient characteristics used in this instrument?

Method

Quantitative methods were used in this study. A descriptive research design was used for this study (Issac, 1995; Kerlinger, 1979). The purpose of this study was to measure and compare various resilient characteristics of teachers with three or fewer years of experience. The results of this study provided detailed information describing an existing phenomenon (Issac, 1995) Teachers with three or fewer years of teaching experience, whom teach at member schools of the National Christian School Association, will comprised the population for this study. The instrument used was the Personal Resilience Questionnaire developed by ODR, (1994). The questionnaire was distributed to the selected participants by the use of a personal web page and/or mail.

Assumptions of the Study

Assumptions being made concerning this study were: the characteristics of resilience in adults can be measured; characteristics of resilience can be strengthened; environments that strengthen resilience can be created in schools; strengthening the resilient characteristics of a teacher enhances the teacher's ability to create a more effective learning environment for students; knowledge of the characteristics of resilience present in adults who choose to teach will be an effective tool for supervisors, teachers, and educational programs.

Definition of Terms

Resilience, "the ability to demonstrate both strength and flexibility in the face of frightening disorder, is the internal guidance system people use to reorient ourselves when blown off course by the winds of change" (Conner, 1992, xxxi)

Attrition is divided into "four components: teachers who voluntarily moved to different schools, teachers who moved to different schools through involuntary assignment, teachers who voluntarily left teaching altogether, and teachers who left teaching involuntarily through personnel action, or who retired" (Boe, et al., 1999, p. 1).

Elementary Teachers: Those men and/or women teaching Kindergarten through 5th grade.

Junior High Teachers: Those men and/or women teaching 6th grade through 8th grade.

High School Teachers: Those men and/or women teaching 9th grade through 12th grade.

*Positive***:** Display a sense of security and self-assurance that is based on their view of life as complex but filled with opportunity (ODR, 1994, p. 2).

Focused: Have a clear vision of what they want to achieve (ODR, 1994, p. 2).

Flexible: Demonstrate a special pliability when responding to change (ODR, 1994, p. 2).

Organized: Develop certain structured approaches to managing change (ODR, 1994, p. 2).

*Proactive***:** Engage change rather than defending against it (ODR, 1994, p. 2).

*Significance Criterion***:** The risk of mistakenly rejecting the null hypothesis (Cohen, 1992, p. 156).

Effect Size: The degree to which the null hypothesis is false is indexed by the discrepancy between the null hypothesis and the research hypothesis (Cohen, 1992, p. 156).

Power: The long-term probability of rejecting the null hypothesis, given the population effect size, the significance criterion, and the sample size (Cohen, 1992, p. 156).

Limitations of the Study

In this study the resilient characteristics of adults who choose to teach was measured and compared using various demographics. This study did not measure stress level, anxiety, job satisfaction, and/or job involvement of teachers. The lack of stability of the characteristics of resilient individuals limited the generalizability of this study. The study of the characteristics of resilient individuals involves considering various components of career, community, and religious life. These variables are subject to a consistent roller coaster ride of the reality of life; therefore the characteristics of a resilient individual can fluctuate.

These scores represent general tendencies. They do not indicate that an individual will act the same way in every situation. This suggests that if we were to view a person over time, they would be displaying a changing blend of the various attributes in response to the specific situations they face, showing a ‘wave form’ varying around a general style rather than a rigid, unvarying approach. (ODR, 1996, p. 20)

Resilience is similar to self-efficacy in this regard. Self-efficacy is situationally specific which means that it is specific to a particular task context which also involve expectations about the outcomes (Bandura, 1977, 1986, 1993, 1997; Tschannen-Moran, Hoy, & Hoy, 1998). The relationship between the characteristics of resilient individuals and certain protective factors in the environment also created limitations on the generalizability of the findings of this study.

Summary

It is clear from the present research on resilient individuals (Benard, 1993; Conner, 1993; Glaser, Butler, & Pryor, 1998; Hauser, et al., 1985; Higgins, 1994; Hoopes, et al.,1993; Luther, 1991; Pines, 1984; Rutter, 1990; Werner & Smith, 1982; Wolin & Wolin, 1993), that the positive effects of the presence of resilient characteristics are profound, including a positive change in the general outlook of life, higher problem solving skills, increased verbal ability, a higher level of task performance, evident self-righting tendencies, and a positive outlook on difficult situations. The possibility of these positive effects occurring within teachers provided a reason to investigate the resilient characteristics of adults who choose to teach.

In the one study involving elementary teachers by Glaser, Butler, and Pryor (1998) a relationship between low levels of apprehension about communication and high levels of resilient characteristics was found. The findings of this study indicated that a low level of apprehension regarding communication corresponded with a moderately higher level of resilience. (p. 585) Based on the fact that one connection has been made between the resilience level and the apprehension regarding communication for a sample of 200 elementary school teachers, along with all of the research that is now present

about resilience, a more comprehensive look into the effects of the resilient characteristics of teachers may prove useful to educators. "Teachers play a primary role in education. Teachers who are at risk place children at risk. It is crucial for the educational system to understand factors that place teachers at risk. It is strongly recommended that educational systems seek ways to foster resilient factors that may protect teachers and the educational system" (Hammond & Onikama, 1997, p. 7).

Organization of the Study

Chapter 1 includes a description of the nature and purpose of the study, the specific research questions, method, assumptions made by the researcher, definitions of terms used in the study, limitations of the study, and a summary.

Chapter 2 includes a review of the literature of resilient individuals.

Chapter 3 includes a presentation of the methodology of the study. The research methods used, the design, and the procedures used in the research.

Chapter 4 includes a presentation of the results of the study, and the findings related to each of the research questions.

Chapter 5 includes a conclusions, discussions, and implications of results for theory, future research and practice.

CHAPTER 2

REVIEW OF LITERATURE

Definitions of Resilience

What is resilience? Conner (1992) defined resilience as "the ability to demonstrate both strength and flexibility in the face of frightening disorder. It is the internal guidance system people use to reorient ourselves when blown off course by the winds of change" (p. xxxi). Henderson and Milstein (1996) defined resilience as "the capacity to spring back, rebound, successfully adapt in the face of adversity, and develop social, academic, and vocational competence despite exposure to severe stress or simply to the stress that is inherent in today's world" (p. 7).

Others defined resiliency as the ability to rebound successfully when confronted with life's inevitable ups and downs (Benard, 1991; Block, 1993; Demos, 1989; Linquanti, 1992; Masten, Best & Garmezy, 1990; Richardson et al., 1990; Rirkin & Hoopman, 1991; Rutter, 1990; Sagor, 1996; Werner, 1984; Werner & Smith, 1992; Wolin & Wolin, 1993). Joseph (1994) compared resilience to glue in this manner, "the glue that keeps us functioning when we are confronted with life's misfortunes or challenges...[comprised of] attitudes, coping behaviors and personal strength" (p. 25). Block (1993) described resilience as the trait that provides flexibility, problem-solving abilities, and detours around barriers that are encountered.

Conner (1992) discussed resilience as the reflection of the capacity to adapt to change. Conner outlined five characteristics of resilience as:

Display a sense of security and self-assurance that is based on their view of life as complex but filled with opportunity. (Positive);

Have a clear vision of what they want to achieve (Focused);

Demonstrate a special pliability when responding to uncertainty (Flexible);

Develop structured approaches to managing ambiguity (Organized);

Engage change rather than defend against it (Proactive) (p. 238).

Higgins (1994) used resilience to imply that "potential subjects are able to negotiate significant challenges to development yet consistently 'snap back' in order to complete the important developmental tasks that confront them as they grow" (p. 1). Resilient does not mean merely survive. "Resilience emphasizes that people do more than merely get through difficult emotional experiences, hanging on to inner equilibrium by a thread" (Higgins, 1994, p. 1). Resilience is one way to describe the ability to "outmaneuver, outlast, outwit, or outreach the adversity encountered." (Wolin & Wolin, 1993, p. 7) "Resilience can be thought of as an antibody that enables children to ward off attackers that might stop even the most formidable among us" (Sagor, 1996, p. 38).

The beginning research for resilience initiated within child-development research in the mid- to late-1970s. Sameroff and Chandler (1975) began focusing on the self-righting tendencies in the human organism that appear to move children toward a normal development under all but the most adverse circumstances. Further research (Freedman, 1979; Osofsky, 1979; White, 1974; Wilson, 1978) emerged concerning this self-righting tendency. Werner and Smith (1992) found most of the research base for resilience in

short term studies done in middle childhood and adolescence. A small number of studies have been done where the participants were studied beyond the age of twenty (Anothy and Cohler, 1987; Werner, 1988, 1989, 1990). Werner (1989) used this research to provide an increased awareness of the coping skills of children. White (1974) defines coping skills as "their adaptation under relatively difficult circumstances in the face of challenges, frustrations and threats."

Werner and Smith's seminal work in the field of resiliency was comprised of a longitudinal observational study of all individuals born in Kauai in 1955. In the first documentation of this study, *Vulnerable but Invincible* (1982), Werner and Smith reported that one out of every three high-risk children became a successful adult by the age of 18. "As long as the balance between stressful life events and protective factors is manageable for children they can cope. But when the stressful life events outweigh the protective factors, even the most resilient child can develop problems" (Werner, 1984, p. 71). In the latest documentation of this study, *Overcoming the Odds: High Risk Children from Birth to Adulthood* (1992), Werner and Smith report that out of the remaining two-thirds, who became high-risk adolescents, two-thirds became successful adults by the age of 32.

In their research of resilient children, Werner and Smith (1992) describe resilient children as "children who work well, play well, love well, and expect well" (p. 192). This description suggests a well -rounded content child. "What set them apart were life histories that revealed a pattern of gradual mastery, restoration, and recovery" (Werner, 1992, p. 74).

Characteristics of Resilience

Characteristics of resiliency include: self-confidence, adaptability, willingness to take risks, problem-solving, hardiness, self-regulation, effort-full control, social competency, autonomy, sense of purpose, sense of coherence, optimistic, cooperative, inquisitive, possessing self-righting tendencies, awareness and appreciation for the growth resulting from painful situations, faith, hope, reflection, initiative, creativity, and an incredible sense of humor which supports a realistic perspective of life (Benard, 1993; Blechman & Culhane, 1993; Block, 1993; Sagor, 1996; Warshaw & Barlow, 1995; Werner, 1984).

Wolin and Wolin (1993) stated that it is important to hear less about the propensity for harm and focus more on the inherent ability to rebound from any adversity that comes. Henderson and Milstein (1996) supported schools focusing on the "emergence of competence, empowerment, and self-efficacy" (p. 3)

Resiliency can be fostered to strengthen the individual's response to difficult and challenging situations (Krovetz, 1999; Konrad & Bronson, 1997). "Resilience is an evolving life-long activity under a constant state of flux; therefore, resilience refers to the individuals' ability to adjust and adapt to the changes, demands, and disappointments that come up in the course of life" (Joseph, 1994, p. xi). Family, community, spiritual, physical, and emotional factors all can play a part in the resilience of an individual (Krovetz, 1999). "Resilience is not a childhood given, but is the capacity that develops over time in the context of person-environment interactions" (Egeland et al., 1993, p. 517). Konrad and Bronson (1997) stated that the fostering of resilient characteristics in

people is a long-term process that promotes healthy human development founded in close nurturing relationships that include trust and respect and mutual valuable goals.

In looking at the differences between resilient and nonresilient people, Conner (1992) used a continuum as a description. The diagram in Appendix A is an adaptation of Conner's work (Conner, 1992, pp. 241-244).

There are some similarities between self-efficacy and the resilient characteristics of teachers. Self-efficacy (Bandura, 1977) has been defined as the belief in ones' capabilities to do what is necessary to achieve a desired outcome. Resiliency (Henderson & Milstein, 1996) has been defined as the ability to rebound successfully from adversity or stress. Self-efficacy is dependent upon the elements of the environment (Lorsbach & Jinks, 1999) and resilient characteristics can be fostered by the presence of certain conditions in the environment (Werner & Smith, 1992; Wolin & Wolin, 1993). Efficacy resilience (Bandura, 1997; Woolfolk & Hoy, 1990) describes the willingness of the person to participate in various activities. Efficacy expectations play an important role in the person's choice of activities, the effort expended within the chosen activity, and the length of time dedicated to the activity. The resilient characteristics that are measured in this study refer to the person's ability to bounce back after and/or during a particularly stressful time (Conner, 1992; Henderson & Milstein, 1996).

Protective Factors

Resiliency theory is the belief in the ability of every person to overcome adversity if important protective factors are present in that person's life. This theory is founded on the proposition that if "members of one's family, community and/or school care deeply about you, have high expectations and purposeful support for you and value your

participation, you will maintain a faith in the future and can overcome almost any adversity" (Krovetz, 1999, p. 29).

The protective factors that can foster resiliency for teachers include: building collegiality, providing intellectual stimulation, giving them a voice that will be heard and answered, creating an environment where teachers can get to know their students and their student's work well, providing the opportunity for establishing a close bond with at least one other person in the school, supporting high expectations, caring and support for the individual, opportunities for meaningful participation, reduction of the negative chain of reaction following exposure to risk, expecting responsible professional behavior, and ample opportunity to contribute meaningfully to one's environment (Benard, 1991; Henderson & Milstein, 1996; Krovetz, 1999; Montano, 1998; Rutter, 1988; Werner, 1990). Henderson and Milstein (1996) found that the most powerful protective factor was a relationship with a caring, supportive adult.

Noonan (1999) presented specific protective factors that can be provided, such as: being willing and able to give brief, noncoercive advice, help to identify and remove the barriers retarding growth, help to provide choices, show empathy, listen, provide honest feedback, help to clarify goals, and actively help -- not sitting back and watch and evaluate but actively assisting in situations where your assistance is needed (pp. 36, 37).

Blocks to Resilience

Henderson and Milstein (1996) indicated that the traits of resilience could also be blocked. Some of the patterns that can block resiliency are: deficit thinking about professional development activities, including supervision and evaluation of teachers, isolation, lack of time for people to develop caring relationships, super-sized schools that

inhibit one-on-one interactions with people, a lack of programs that support people (e.g., mentoring and induction programs), unclear or nonexistent rules, poor role modeling by leaders, narrow role definitions, emphasis on order and discipline, lack of supportive feedback systems, extrinsic rewards based on degree and/or time-in-service, and assumptions based on gender, ethnicity, and other factors (p. 65).

The measuring of resilient characteristics of teachers provides valuable knowledge to schools, supervisors, and education programs. From this knowledge environments for teachers can be developed to strengthen the resilient characteristics of adults who choose to teach. "When teachers feel inadequate, under-appreciated and isolated, they become more punitive in their actions, display less patience in their instruction, demonstrate less compassion for students, and engage in less effective problem solving" (Munson, 1991, p. 2). Therefore the creation of environments where teachers feel adequate, appreciated and less isolated predictably will strengthen the teacher created learning environment for students. "Some say that we reveal the unanswered questions in our own lives by the nature of the things we try to teach others" (Conner, 1992, p. ixx).

Resilience Research

What the research on resiliency shows is that: 1) Resilient characteristics exist within everyone (Conner, 1992; Joseph, 1994; Wolin & Wolin, 1993; Werner & Smith, 1982), 2) Resiliency can be strengthened (Conner, 1992; Konrad & Bronson, 1997; Krovetz, 1999; Werner, 1984), 3) There are environmental factors that can contribute to the strengthening of resiliency (Egeland, et al., 1993; Konrad & Bronson, 1997; Krovetz, 1999), 4) Persons demonstrating strong resilient characteristics in a given situation tend

to look upon the situation with a positive outlook (Benard, 1993; Blechman & Culhane, 1993; Block, 1993; Sagor, 1996; Warshaw & Barlow, 1995; Werner, 1984).

Summary

The research that has been done on resiliency has barely been extended to include adults. Most of the research refers to children (Freedman, 1979; Osofsky, 1979; Sameroff and Chandler, 1975;Werner, 1988,1989,1990; White, 1974; Wilson, 1978). Very little research has been done about the resiliency of adults who choose to teach. In this study, the resilient characteristics of adults who choose to teach and have three or fewer years of classroom teaching experience were measured and compared in the categories of age, gender, exercise frequency, degree of religious or spiritual affiliation, the degree to which work is intertwined with life, school levels, years of classroom teaching experience, education level, certification/teaching assignment/education, marital status, presence of children under the age of 18 in the home, and the match between teaching assignment, education, and certification.

CHAPTER 3

METHODOLOGY

This chapter describes the research procedures that were used in this study. This chapter is organized in the following manner: (a) research design, (b) review of instrument used in study, (c) research questions, (d) sample and data collection, (e) data analysis.

Research Design

This study used a descriptive research design (Issac, 1995; Kerlinger, 1979). The purpose of this study was to measure the resilient characteristics of adults who choose to teach and who have three or fewer years of classroom teaching experience. The results of this study provide detailed information describing an existing phenomenon (Issac, 1995), the resilient characteristics of adults who choose to teach with three or fewer years of classroom teaching experience. This study will examine the resilient characteristics according to the seven categories represented in Conner's resilience research. (Conner, 1992)

Instrument

Resilience has been measured in several ways. Some qualitative methods as well as quantitative methods have been used to measure the resiliency of children and adults (Conner, 1992; Higgins, 1994; Jew, 1991; Maddi, 1997; Montano, 1998; Nowack, 1989;

Rak, & Patterson, 1996; Valentine, & Feinauer, 1993; Wagnild, & Young, 1993; Werner, 1989; Younkin & Betz, 1996).

The Personal Resilience Questionnaire*,* developed by ODR (1994), was the instrument used to measure the resilient characteristics of adults who choose to teach and have three or fewer years of teaching experience**.** Glaser, Butler, and Pryor (1998) used this same instrument to study the relationship between apprehension regarding communication and resiliency among elementary school teachers. This is the only study that has been conducted to measure any aspect of resilient characteristics in teachers. This instrument is designed to measure the five characteristics of resiliency as outlined by Conner (1992): Positive (divided into two categories; Positive: the world, and Positive: Yourself), focused, flexible (divided into two categories; Flexible: Thoughts, and Flexible: Social), organized, and proactive (p. 238).

The Personal Resilience Questionnaire (PRQ) was completed in one of two possible ways: (a) a self-report, pencil and paper questionnaire, or (b) an online copy of the questionnaire. The participants choose which version to complete. A sample of the Personal Resilience Questionnaire can be found in Appendix B. It contains 75 items that are scored on a scale from 1 (strongly disagree) to 6 (strongly agree). This instrument was scored using scan form processing services at ODR. At the time of this printing 26,000 (ODR, 1994, p. 85) people have completed this instrument. The Cronbach's alpha coefficients for each of the seven characteristics are as follows: Positive: The world, .83, Positive: Yourself, .81, Focused, .82, Flexible: Thoughts, .71, Flexible: Social, .74, Organized, .68, and Proactive, .65 (ODR, 1994, p. 86).

This Personal Resilience Questionnaire was administered twice to the same group (n=75), approximately seven months apart. The stability (test-retest) reliability coefficients were as follows; Positive: The World, .79, Positive: Yourself, .66, Focused, .60, Flexible: Thoughts, .73, Flexible: Social, .69, Organized, .70, and Proactive, .68 (ODR, 1994, p. 88).

Daryl Conner began developing the Personal Resilience Questionnaire in 1990 (ODR, 1994, p. 86). Conner began an intensive process with outlining "the characteristics that seemed to differentiate people who were able to absorb disruption and become stronger" (ODR, 1994, p. 85). With the input of several other individuals, a comprehensive literature review of resilience that covered various disciplines, and pilot testing the Personal Resilience Questionnaire was drafted and tested for validity by comparing the individual scores on the seven categories of resilience with other developed and validated scales used to measure the same categories. Convergent validity and discriminant validity were found between the PRQ and the other developed and validated tools. (ODR, 1994, p. 89)

Careful consideration was given to the reading level and time involved in completing the questionnaire as well as the validity and reliability of the instrument. Conner and the Product Development and Research Staff (ODR, 1994) defined each of the seven sub-scales as:

1. Positive, The World: "Designed to assess the tendency to see opportunities in a variety of situations" (p. 90).
2. Positive, Yourself: "Designed to assess a person's general sense of self-efficacy in responding to situations" (p. 90).

3. Focused: “Designed to assess a person’s clarity of purpose; that is, the extent to which the person has a sense of direction in his/her life” (p. 90).
4. Flexible, Thoughts: “Designed to assess the extent to which a person tends to be comfortable with ambiguity, to entertain unfamiliar or contradictory ideas, and to enjoy working with complex ideas” (p. 90).
5. Flexible, Social: “Designed to assess the extent to which a person gives and receives social support; that is, the interdependence that they recognize and have established with those around them” (p. 90).
6. Organized: “Designed to assess the extent to which a person can impose structure on ambiguous situations, including the ability to systematize, sequence, and plan” (p. 90).
7. Proactive: “Designed to assess the extent to which a person is willing to act on his/her environment in the face of uncertainty or risk” (p. 91).

These content and purpose of these seven sub-scales are designed to assess the resilience of an individual in many areas. All of these areas may be applied to teachers. The reliability and validity of the instrument, the applicable content, the amount of time necessary to complete the questionnaire, the ease of completion of the instrument, and the fact that it has not been done with all levels of teachers are the reasons that this instrument was chosen for this study.

Study Variables

The independent variables which were explored in this study were the personal and professional descriptive characteristics of the participants: (a) age, (b) gender, (c) presence of children under the age of 18, (d) marital status, (e) exercise frequency, (f)

level of education completed by the teacher, (g) combination of teaching assignment, certification in that field, and education of teacher in that field, (h) years of classroom teaching experience, (i) school level, (j) level of religious or spiritual affiliation, and (k) the level with which work and life are intertwined, and (l) the teacher's own ranking of their personal general resilience. The dependent variables that were explored were the resilient characteristics of: (a) positive world, (b) positive self, (c) focus, (d) flexible thoughts, (e) flexible social, (f) organization, and (g) proactive.

Research Questions

1. Is there a relationship between the age of teachers: young (20-25 years), middle (26-30 years), and older (>30 years), and his/her resilient characteristics?
2. Is there a relationship between gender and a teacher's resilient characteristics?
3. Is there a relationship between the presence of children under the age of 18 in the teacher's home and his/her resilient characteristics?
4. Is there a relationship between the marital status of a teacher and his/her resilient characteristics?
5. Is there a relationship between the exercise frequency of a teacher and his/her resilient characteristics?
6. Is there a relationship between the level of education completed by the teacher and his/her resilient characteristics?
7. Is there a relationship between the resilient characteristics of a teacher and the compatibility of his/her teaching assignment with certification and education?

8. Is there a relationship between the resilient characteristics of a teacher and number of years of classroom teaching experience? (This study is limited to teachers with three or fewer years of experience.)
9. Is there a relationship between school level: Elementary (K – 5th grades), Junior High (6th –8th grades), and High School (9th – 12th grades), and the resilient characteristics of a teacher?
10. Is there a relationship between the self-described degree of religious or spiritual affiliation and the resilient characteristics of a teacher?
11. Is there a relationship between the degree at which a teacher's work and life intertwine and his/her resilient characteristics?
12. Is there a relationship between the teacher's self-rating of general resilience and the seven categories of measured resilient characteristics used in this instrument?

Sample

There are 127 seven private schools affiliated with the Church of Christ located in 30 states in the United States of America. Over the past decade these schools have increased in number by 25%. Of these private schools, 65 are members of the National Christian School Association (NCSA). To be a member school in the NCSA yearly dues must be paid. The National Christian School Association is an approved accreditation body for affiliated private schools in Texas and Missouri.

The member schools of the NCSA were chosen as the population for this study. The teachers within these member schools with three or fewer years of teaching experience were asked to participate in this study. Although encouragement came from the principals of each NCSA member school, individual teacher participation was

voluntary. A letter was sent outlining the specifics of participating in the study. This letter can be found in Appendix C. Principals were asked to respond via e-mail with their permission and the number of teachers in their school that met the experience requirement of the study. There were two hundred, eighty-nine teachers in the member schools that met the teaching requirement. Two hundred, forty-eight teachers participated in the study. A Table in Appendix D outlines the following statistics.

Young teachers (20 – 25 years) comprised 49% of the responding sample, while 23% were in the middle age category (26 – 30 years), leaving 28% of the participants in the older age category (> 30 years). Seventy-seven percent (77%) of the participants were female. Sixty-five percent (65%) did not have children under the age of 18 living in their home. Marital Status ranged from 34% (single); 63% (married); 2% (divorced); and 1% (other). Teachers who exercised three or more times a week represented 30% of this sample, followed closely by 29% of the teachers who exercised occasionally. Nineteen percent (19%) of the teachers exercised rarely, while 12% exercised weekly, and 10% exercised twice a week. Seventy-eight percent (78%) of the teachers held a bachelor's degree, 21% held a master's degree, and 1% held a doctorate degree. Fifty-nine percent of the teachers were certified and teaching in the same field as their degree; 9% were certified and teaching in a field different from their degree; 5% held a temporary certificate and were teaching in the same field as their degree; 2% held a temporary certificate and were teaching in a field different from their degree; 23% were not certified but were teaching in the same field as their degree; and 3% were not certified or educated in their current teaching field. Years of teaching experience ranged from 19% (one year); 27% (two years); to 54% (three years). Forty-three percent (43%) of the teachers were

teaching in the Elementary School Level (K – 5th grade), 22% were teaching in the Junior High Level (6th – 8th grades), and 35% were teaching in the High School Level (9th – 12th grades).

The member schools are listed in the chart in Appendix E with the number of qualified teachers as well as the number of participating teachers.

Data Collection

The participants had the choice of answering the questionnaire via the Internet or by using the paper and pencil copy. Participants were given five weeks to complete the questionnaire. The questionnaire took approximately 20 to 30 minutes to complete. Sixty-seven of the teachers choose the paper and pencil version of the questionnaire, the rest of the sample chose the internet version of the questionnaire. The participants who choose the Internet version were directed to the website to complete the questionnaire. An e-mail sent to the researcher confirmed their completion of the questionnaire. The participants who choose the paper and pencil copies were mailed the questionnaire with stamped, addressed return envelopes to return their responses to the researcher.

Data Analysis

Summary descriptive statistics for relevant demographics and each of the independent and dependent variables were conducted for the study. A one-way multivariate analysis of variance (MANOVA) was conducted for each research question (Green, et al., 1997). A MANOVA was conducted due to the presence of the seven dependent variables for each research question. The Wilke's Lambda was the statistic used to evaluate the MANOVA hypothesis for each question (Green, et al., 1997). Follow-up analysis of variance (ANOVA) analyses were used to assess whether there

were differences among the groups on: age, gender, years of teaching experience, school level, level of completed education by teacher, presence of children under the age of 18 in the home, exercise frequency, martial status, match between current teaching field/ degree/ and certification, degree of religious or spiritual affiliation, degree to which work and life intertwine, personal ranking of general resilience and on any particular linear combinations of the dependent variables. If any of the ANOVAs showed a statistically significant difference and the variable contained more than two factors post hoc pairwise comparisons were made using the Bonferroni approach. Green, Salkind, and Akey (1997) recommend the Bonferroni approach as the most generally used approach to control for Type I error in MANOVA situations. The post hoc comparisons were made to find which independent variable affected the scores on the resilience categories most strongly.

Summary

Chapter 3 included: (a) research design, (b) review of instrument used in study, (c) study variables, (d) research questions, (e) sample, (f) data collection, and (g) data analysis. The results of the data analysis are presented in Chapter 4.

CHAPTER 4

FINDINGS

This chapter presents the results of the various analyses of data conducted for the participants in this study. The results are presented in the following manner: (a) summary of design of the study, (b) findings related to the research questions, (c) findings by the seven categories of resilience (d) findings by each independent variable; and (h) strengths and weaknesses of each independent variable.

Summary of Design of the Study

Variables

The independent variables which were explored in this study were the personal and professional descriptive characteristics of the participants: (a) age, (b) gender, (c) presence of children under the age of 18, (d) marital status, (e) exercise frequency, (f) level of education completed by the teacher, (g) combination of teaching assignment, certification in that field, and education of teacher in that field, (h) years of classroom teaching experience, (i) school level, (j) level of religious or spiritual affiliation, (k) the level with which work and life are intertwined, and (l) personal ranking of general resilience. The dependent variables that were explored were the resilient characteristics of: (a) positive world, (b) positive self, (c) focus, (d) flexible thoughts, (e) flexible social, (f) organization, and (g) proactive.

Instrument

The Personal Resilience Questionnaire (PRQ), developed by ODR (1994), was the instrument used to measure the resilient characteristics of adults who choose to teach and have three or fewer years of teaching experience. The PRQ was completed in one of two possible ways: (a) a self-report, pencil and paper questionnaire, or (b) an online copy of the questionnaire. It was the participant's choice which version to complete. It contains 75 items that are scored on a scale from 1 (strongly disagree) to 6 (strongly agree). This instrument was scored using scan form processing services at ODR. The scores are presented in the form of raw scores, ranging from 0 to 100. The score on each characteristic indicates the degree to which the participant's answers reflect that characteristic. High scores indicate areas of strength while low scores indicate areas of weakness. Conner and the Product Development and Research Staff (ODR, 1994) designed each of the seven sub-scales in this manner:

1. Positive, The World: "Designed to assess the tendency to see opportunities in a variety of situations" (p. 90).
2. Positive, Yourself: "Designed to assess a person's general sense of self-efficacy in responding to situations" (p. 90).
3. Focused: "Designed to assess a person's clarity of purpose; that is, the extent to which the person has a sense of direction in his/her life" (p. 90).
4. Flexible, Thoughts: "Designed to assess the extent to which a person tends to be comfortable with ambiguity, to entertain unfamiliar or contradictory ideas, and to enjoy working with complex ideas" (p. 90).

5. Flexible, Social: “Designed to assess the extent to which a person gives and receives social support; that is, the interdependence that they recognize and have established with those around them” (p. 90).
6. Organized: “Designed to assess the extent to which a person can impose structure on ambiguous situations, including the ability to systematize, sequence, and plan” (p. 90).
7. Proactive: “Designed to assess the extent to which a person is willing to act on his/her environment in the face of uncertainty or risk” (p. 91).

The content and purpose of these seven sub-scales are designed to assess the resilience of an individual in many areas.

Population and Sample

The member schools of the NCSA were chosen as the population for this study. The teachers within these member schools with three or fewer years of teaching experience were asked to participate in this study. There were 289 teachers in the member schools that met the teaching requirement. Two hundred forty-eight teachers participated in the study. This group represented an 85.8% return rate for the possible participants of this study. Five questionnaires were not used because they were lost in the mail. Summary descriptive statistics were compiled for relevant demographic variables and for the independent and dependent variables in the study. Descriptive characteristics for the total sample can be found in Appendix E.

Personal and Professional Characteristics of Participants

Appendix F provides a summary of the personal and professional characteristics for the total sample of teachers ($\underline{n}$ = 248) who were willing to participate in the study. A

few items on some questionnaires were not completed. Participation was completely voluntary; therefore a teacher had the option of not responding to any of the questions. This accounts for the differences in the sample size on each research question. Ninety-eight percent (98%) of all the participants responded to the age question, 100% responded to the gender question, 98% responded to the presence of children under the age of 18 question, 99.5% responded to the marital status question, 97% responded to the exercise frequency question, 97% responded to the level of completed education question, 98% responded to the teaching assignment question, 99% responded to the years of classroom teaching experience question, 96% responded to the school level question, 99% responded to the religious/spiritual affiliation question, and 99% responded to the self-rating of general resilience question.

Young teachers (20 – 25 years) comprised 49% of the responding sample, while 23% were in the middle age category (26 – 30 years), leaving 28% of the participants in the older age category (> 30 years). Seventy-seven percent (77%) of the participants were female. Sixty-five percent (65%) did not have children under the age of 18 living in their home. Marital Status ranged from 34% (single); 63% (married); 2% (divorced); and 1% (other). Teachers who exercised three or more times a week represented 30% of this sample, followed closely by 29% of the teachers who exercised occasionally. Nineteen percent (19%) of the teachers exercised rarely, while 12% exercised weekly, and 10% exercised twice a week. Seventy-eight percent (78%) of the teachers held a bachelor's degree, 21% held a master's degree, and 1% held a doctorate degree. Fifty-nine percent (59%) of the teachers were certified and teaching in the same field as their degree; 9% were certified and teaching in a field different from their degree; 5% held a temporary

certificate and were teaching in the same field as their degree; 2% held a temporary certificate and were teaching in a field different from their degree; 23% were not certified but were teaching in the same field as their degree; and 3% were not certified or educated in their current teaching field. Years of teaching experience ranged from 19% (one year); 27% (two years); to 54% (three years). Forty-three percent (43%) of the teachers were teaching in the Elementary School Level (K – 5th grade), 22% were teaching in the Junior High Level (6th – 8th grades), and 35% were teaching in the High School Level (9th – 12th grades).

Findings Related to Research Questions

A one-way MANOVA was conducted for each research question (Green et al., 1997). A MANOVA was conducted due to the presence of the seven dependent variables for each research question. The Wilkes' Lambda was the statistic used to evaluate the MANOVA hypothesis for each question (Green et al., 1997). Follow-up ANOVAs were used to assess whether there were differences among the groups on certain dependent variables and on any particular linear combinations of the dependent variables. If any of the ANOVAs showed a statistically significant difference and the variable contained more than two factors post hoc pairwise comparisons were made using the Bonferroni approach. Green, et al. (1997) recommends the Bonferroni approach as the most generally used approach to control for Type I error in MANOVA situations. The post hoc comparisons were made to find which independent variable affected the scores on the resilience categories most strongly.

Research Question 1: Is there a relationship between the age of a teacher, young (20 – 25 years), middle (26 – 30 years), and older (31 years and older), and the resilient characteristics recorded in each of the seven categories?

A one-way MANOVA was conducted to determine the effect of the three different age groups on the seven different categories of resilience. Statistically significant differences were found among the three age groups on these seven categories of resilience. The results of Wilkes' $\Lambda = .856$, $F(14, 468) = 2.701$, $p < .001$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for the three age categories is viable. The multivariate $\eta^2 = .075$. Table 4.1 contains the means and standard deviations on the seven categories for the three age groups.

ANOVAs were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .05 level. The ANOVA on the positive world category was significant, $F(2,240) = 4.029$, $p = .019$, $\eta^2 = .032$. The ANOVA on the positive self category was nonsignificant, $F(2, 240) = .126$, $p = .882$, $\eta^2 = .001$. The ANOVA on the focus category was nonsignificant, $F(2, 240) = .415$, $p = .661$, $\eta^2 = .003$. The ANOVA on the flexible thoughts category was nonsignificant, $F(2, 240) = .279$, $p = .757$, $\eta^2 = .002$. The ANOVA on the flexible social category was nonsignificant, $F(2, 240) = .864$, $p = .423$, $\eta^2 = .007$. The ANOVA on category of organization was significant, $F(2, 240) = 4.773$, $p = .009$, $\eta^2 = .038$. The ANOVA on the proactive category was nonsignificant, $F(2, 240) = .505$, $p = .604$, $\eta^2 = 0.004$.

Post hoc analyses for the positive world and organization categories were conducted to determine which age groups impacted these resilient characteristics most strongly. Because there are seven categories, the Bonferroni adjustment as well as the

initial significance level will be considered in the interpretation of these data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The older group (31 years and older) recorded significantly higher scores on the positive world category in comparison with the middle group (26 – 30 years), at the 0.05 significance level. The other comparisons within the age groups were not significantly different from each other. There were no significant differences at the 0.007 significance level in this category.

The younger group (20 – 25 years) recorded significantly higher scores on the organization category than the middle group (26 – 30 years), at the .05 significance level. The other comparisons within the age groups were not significantly different from each other with regard to organization. There were no significant differences at the .007 significance level in this category.

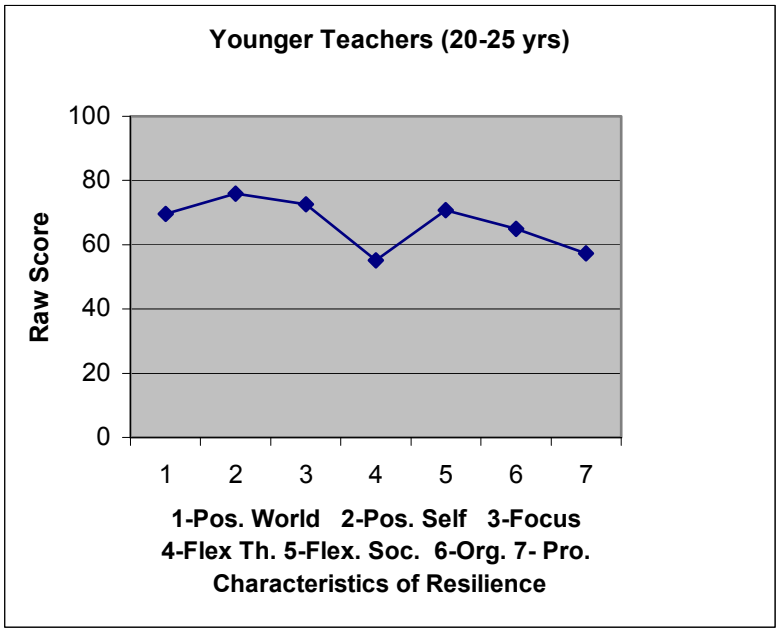
Thus, the results of the resilient characteristics of teachers when compared by age showed statistically significant differences in the areas of Positive World and Organization. The older teachers recorded a higher resilience in the category of Positive World, while the younger teachers recorded a higher resilience in the category of Organization.

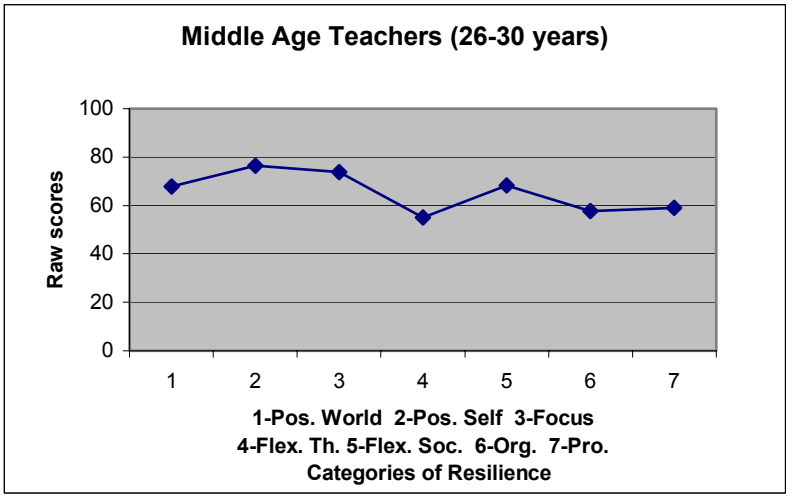
Table 4.1

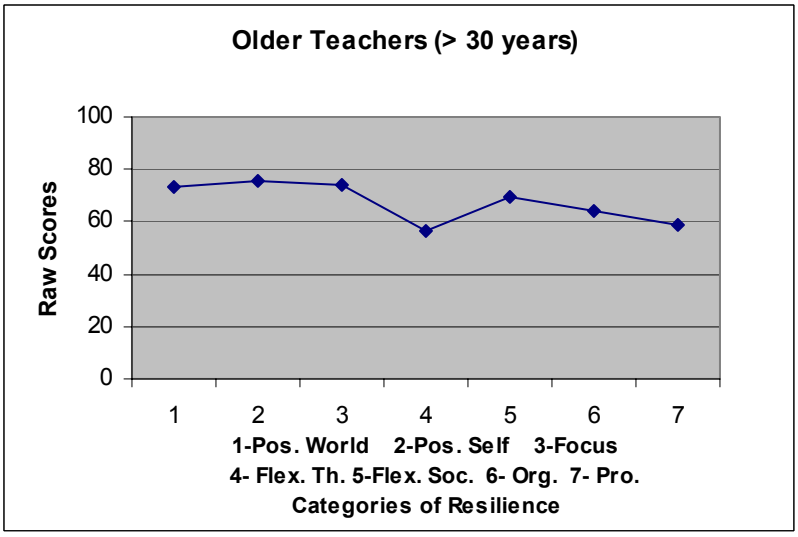
Means and Standard Deviations for the Three Age Groups Within Each Dependent Variable for Post Hoc Analyses

Resilient characteristics	Younger (20-25yrs.)		Middle (26-30 yrs.)		Older (> 30 yrs.)	
	M	SD	M	SD	M	SD
Positive world	69.53	12.54	67.75	11.71	*73.61	11.72
Positive self	75.88	11.50	76.47	11.77	75.42	11.61
Focus	72.61	13.45	73.85	13.74	74.26	10.67
Flexible thoughts	55.19	11.85	55.09	14.03	56.49	12.55
Flexible social	70.74	11.73	68.18	11.25	69.59	13.22
Organized	*64.96	15.04	57.75	15.21	63.88	13.18
Proactive	57.28	11.38	58.98	12.24	58.64	12.42

Figure 4.1 shows the overall pattern of the resilient characteristics of each age classification and the comparison of all three classifications.




Middle Age Teachers (26-30 years)
Raw scores
100
80
60
40
20
0
1
2
3
4
5
6
7
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Older Teachers (> 30 years)
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
1-Pos. World 2-Pos. Self 3-Focus
4- Flex. Th. 5-Flex. Soc. 6- Org. 7- Pro.
Categories of Resilience

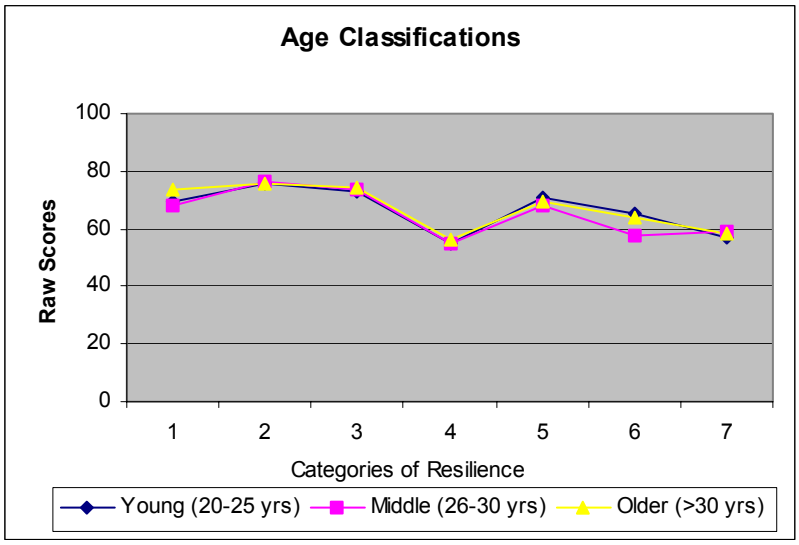


Figure 4.1. Overall pattern of resilient characteristics of each age classification.

Research Question 2: Is there a relationship between the gender of the teacher and the resilient characteristics recorded in each of the seven categories?

A one-way MANOVA was conducted to determine the effect of gender on the seven different categories of resilience. Statistically significant differences were found between genders on these seven categories of resilience. The results of Wilkes' $\Lambda = .918$, $F(7, 240) = 3.052$, $p = .004$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for each gender is viable. The multivariate η^2 is .082. Table 4.3 contains the means and standard deviations on the seven categories for both genders.

ANOVAs were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .05 level. The ANOVA on the positive world category was nonsignificant, $F(1, 246) = .248$, $p = .619$, $\eta^2 = .001$. The ANOVA on the positive self category was nonsignificant, $F(1, 246) = .120$, $p = .729$, $\eta^2 = .064$. The ANOVA on the focus category was nonsignificant, $F(1, 246) = .857$, $p =$

0.355, η^2 = .003. The ANOVA on the flexible thoughts category was nonsignificant, F(1, 246) = 1.889, p = .171, η^2 = .008. The ANOVA on the flexible social category was significant, F(1, 246) = 5.944, p = .015, η^2 = .024. The ANOVA on category of organization was significant, F(1, 246) = 5.776, p =.017, η^2 = .023. The ANOVA on the proactive category was nonsignificant, F(1, 246) = .259, p = .611, η^2 = 0.001.

Analyses of the means and standard deviations for the flexible social and organization categories were conducted to determine which age groups impacted these resilient characteristics most strongly. Because there are seven categories, the Bonferroni adjustment as well as the initial alpha level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level, as well as the 0.05 level.

The female group recorded significantly higher scores on the flexible social category than the male group, at the 0.05 significance level. There were no significant differences at the 0.007 significance level in this category.

The female group recorded significantly higher scores on the organization category than the male group, at the 0.05 significance level. There were no significant differences at the 0.007 significance level in this category.

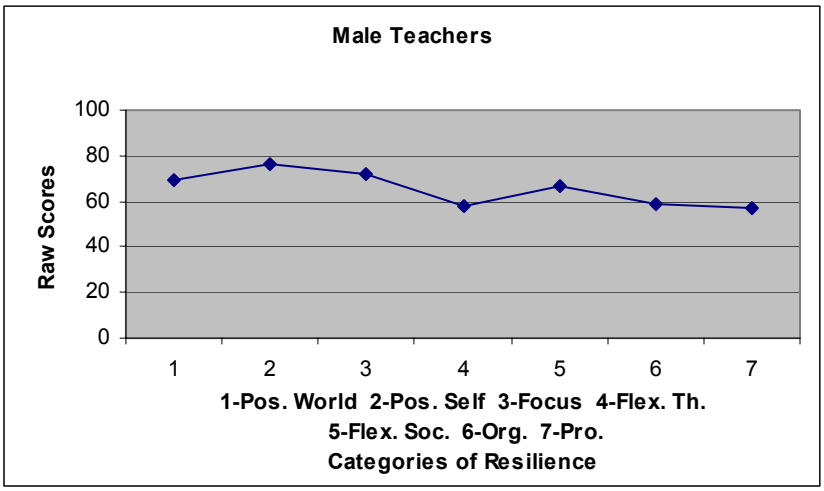
Thus, the results of the resilient characteristics of teachers when compared by gender showed statistically significant differences in the areas of Flexible Social and Organization. The female teachers recorded a higher resilience in the categories of Flexible Social, and Organization than the male teachers.

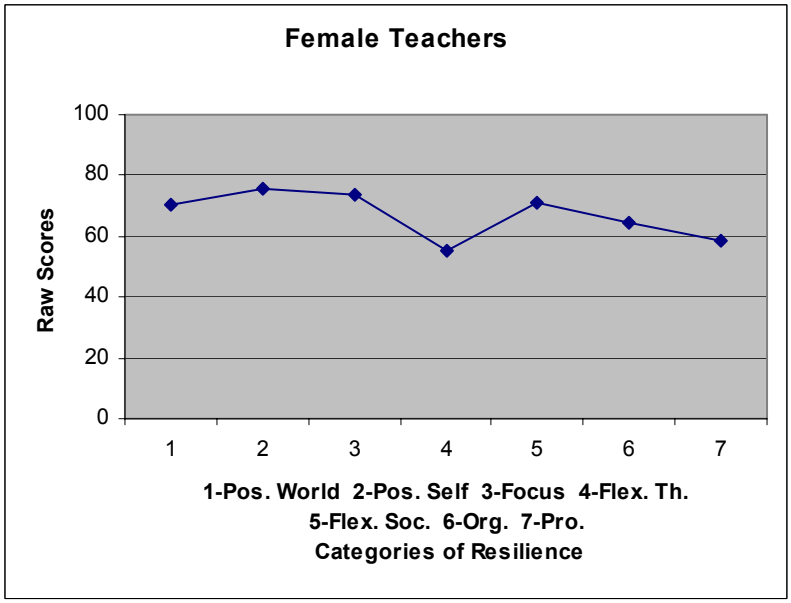
Table 4.2

Means and Standard Deviations of the two genders within each Dependent Variable for Post Hoc Analyses

Resilient characteristics	Male		Female	
	M	SD	M	SD
Positive world	69.69	11.97	70.61	12.34
Positive self	76.52	11.73	75.92	11.51
Focus	72.07	12.32	73.83	12.75
Flexible thoughts	57.72	14.39	55.13	12.01
Flexible social	66.57	10.73	*70.92	12.21
Organized	59.07	16.27	*64.32	13.99
Proactive	57.41	11.08	58.33	12.21

Figure 4.2 shows the overall pattern of the resilient characteristics of each gender and the comparison of the two genders.





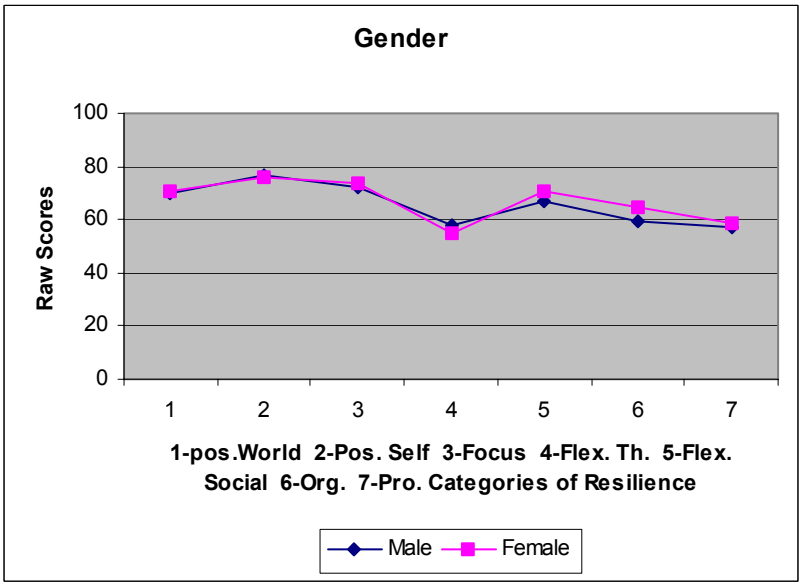


Figure 4.2. Overall pattern of resilient characteristics of each gender and a comparison of the genders.

Research Question 3: Is there a relationship between the presence of children under the age of 18 in the teacher's home and the recorded resilient characteristics in each of the seven categories?

A one-way MANOVA was conducted to determine the effect of the presence of children under the age of 18 in the teacher's home on the seven different categories of resilience. The results of Wilkes' $\Lambda = .949$, $\underline{F}(7, 235) = 1.822$, $\underline{p} = .084$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for the presence of children under the age of 18 is questionable. The multivariate $\eta^2 = .051$. Table 4.4 contains the means and standard deviations on the seven categories for these groups.

ANOVAs were conducted as follow-up tests to the MANOVA. Although the results of the Wilkes' Λ produced a nonsignificant result for the group as a whole, the follow-up ANOVAs show some distinction between these two groups. Using the Bonferroni method, each ANOVA was tested at the .05 level. The ANOVA on the positive world category was significant, $\underline{F}(1, 241) = 8.846$, $\underline{p} = .003$, $\eta^2 = .035$. The ANOVA on the positive self category was nonsignificant, $\underline{F}(1, 241) = .736$, $\underline{p} = .392$, $\eta^2 = .003$. The ANOVA on the focus category was significant, $\underline{F}(1, 241) = 3.908$, $\underline{p} = .049$, $\eta^2 = .016$. The ANOVA on the flexible thoughts category was nonsignificant, $\underline{F}(1, 241) = .320$, $\underline{p} = .572$, $\eta^2 = .001$. The ANOVA on the flexible social category was borderline significant, $\underline{F}(1, 241) = 3.716$, $\underline{p} = .055$, $\eta^2 = .015$. The ANOVA on category of organization was nonsignificant, $\underline{F}(1, 241) = .040$, $\underline{p} = .841$, $\eta^2 = .000$. The ANOVA on the proactive category was nonsignificant, $\underline{F}(1, 241) = .470$, $\underline{p} = .494$, $\eta^2 = .002$.

Analyses of the means and standard deviations for the positive world, focus, and flexible social categories were conducted to determine how the presence of children under the age of 18 impacted the resilient characteristics. Because there are seven categories, the Bonferroni adjustment as well as the initial significance level will be

considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

In all three categories, (positive world, focus, and flexible social) the teachers with children under the age of 18 in their home recorded significantly higher scores in comparison with the teachers who did not have children under the age of 18 in their home, at the 0.05 significance level. The differences recorded in the positive world category were significant at the 0.007 significance level.

Thus, teachers with children under the age of 18 living in their home recorded showed higher levels of resilience in the categories of Positive World, Focus, and Flexible Social than the teachers without children under the age of 18 living in their home.

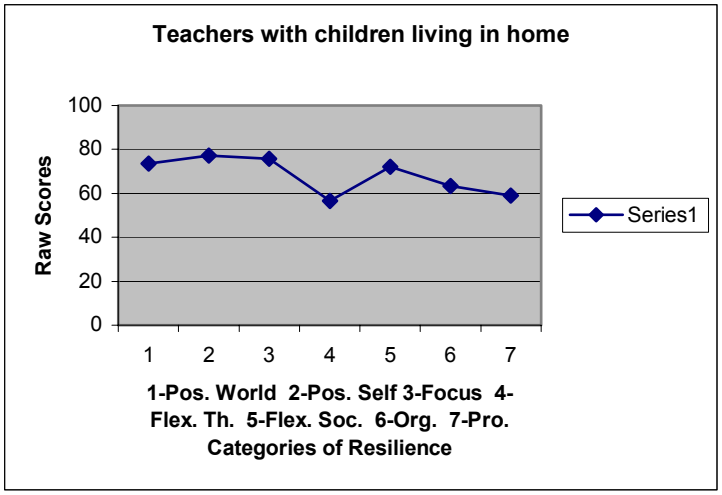
Table 4.3

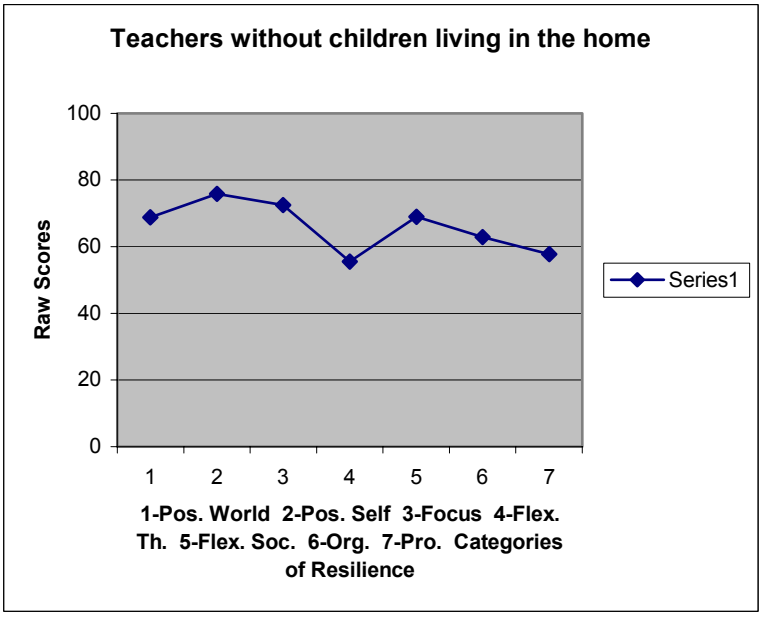
Means and Standard Deviations for the Two Groups Within Each Dependent Variable for Post Hoc Analyses

Resilient characteristics	Children in home		No children in home	
	M	SD	M	SD
Positive world	*73.60	10.52	68.76	12.78
Positive self	77.10	10.81	75.76	11.89
Focus	*75.76	10.09	72.42	13.64
Flexible thoughts	56.45	12.42	55.48	12.82
Flexible social	*72.07	9.75	69.01	12.69
Organized	63.36	12.86	62.96	15.76
Proactive	58.90	12.44	57.80	11.70

Figure 4.3 shows the overall pattern of the resilient characteristics of teachers with children under the age of 18 living in their home and teachers

without children under the age of 18 living in their home, as well as a graph comparing the two classifications.





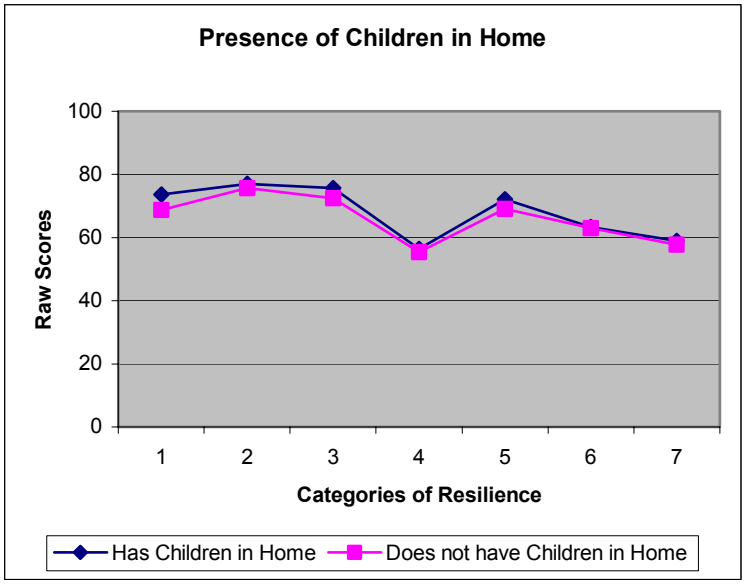


Figure 4.3. Overall pattern of resilient characteristics of teachers with or without children under age 18 living in their home and a comparison of the two classifications.

Research Question 4: Is there a relationship between the marital status of a teacher and the presence of resilient characteristics according to these seven categories?

A one-way MANOVA was conducted to determine the effect of the marital status of the teacher on the seven different categories of resilience. Statistically significant differences were not found among the four levels of marital status on these seven categories of resilience. The results of Wilkes' $\Lambda = 1.377$, $F(21, 68.086) = 1.377$, $p = .121$. The multivariate η^2 is 0.039. Table 4.5 contains the means and standard deviations on the seven categories for these groups.

ANOVAs were conducted as follow-up tests to the MANOVA. Although the results of the Wilkes' Λ produced a nonsignificant result for the group as a whole, the follow-up ANOVAs show some distinction between these two groups. Using the Bonferroni method, each ANOVA was tested at the 0.05 level.

The ANOVA on the positive world category was nonsignificant, $F(3, 243) = 2.048$, $p = .108$, $\eta^2 = .025$. The ANOVA on the positive self category was nonsignificant, $F(3, 243) = .516$, $p = .671$, $\eta^2 = .006$. The ANOVA on the focus category was significant, $F(3, 243) = 5.189$, $p = .002$, $\eta^2 = .060$. The ANOVA on the flexible thoughts category was nonsignificant, $F(3, 243) = .562$, $p = .641$, $\eta^2 = .007$. The ANOVA on the flexible social category was nonsignificant, $F(3, 243) = .147$, $p = .931$, $\eta^2 = .002$. The ANOVA on category of organization was significant, $F(3, 243) = 2.860$, $p = .038$, $\eta 2 = .034$. The ANOVA on the proactive category was nonsignificant, $F(3, 243) = .017$, $p = .997$, $\eta^2 = .000$.

Post hoc analyses for the focus and organization categories were conducted to determine which marital status groups impacted these resilient characteristics the most. Because there are seven categories, the Bonferroni adjustment as well as the initial alpha level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The group of married teachers recorded significantly higher scores on the focus category in comparison with the single teachers, at the 0.05 and 0.007 levels. The other comparisons within the other groups were not significantly different from each other.

The group of married teachers recorded significantly higher scores on the organization category than the single group, at the 0.05 significance level. The other comparisons within the age groups were not significantly different from each other with regard to organization. There were no significant differences at the 0.007 significance level in this category.

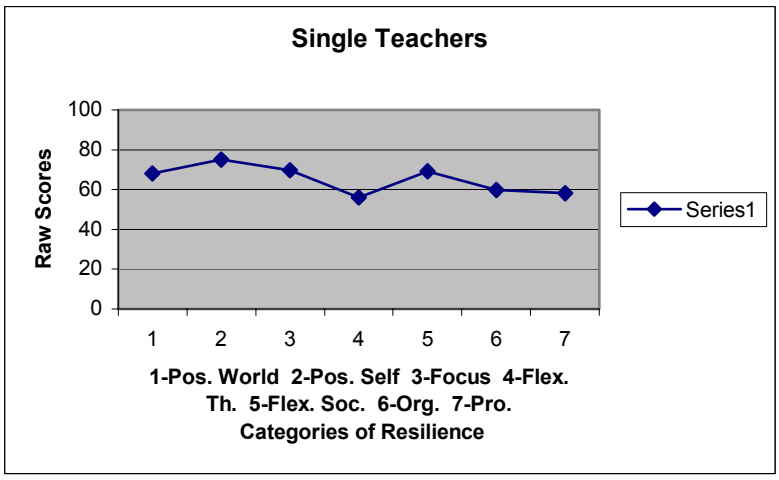
Thus, married teachers showed higher levels of resilience in the categories of Focus and Organization than single teachers.

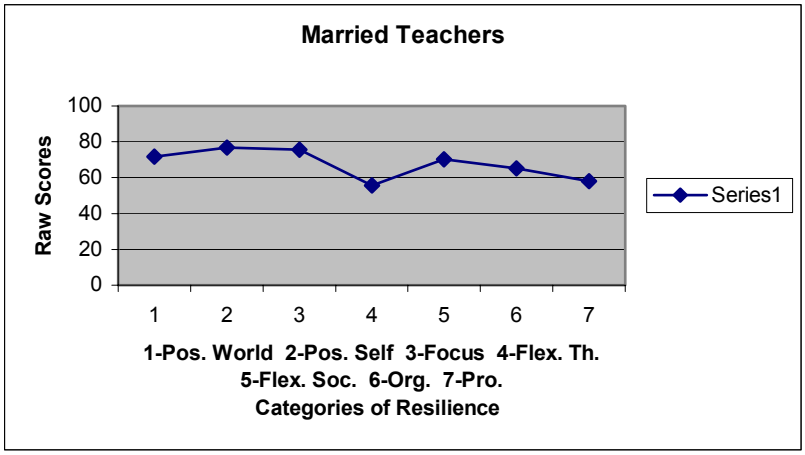
Table 4.4

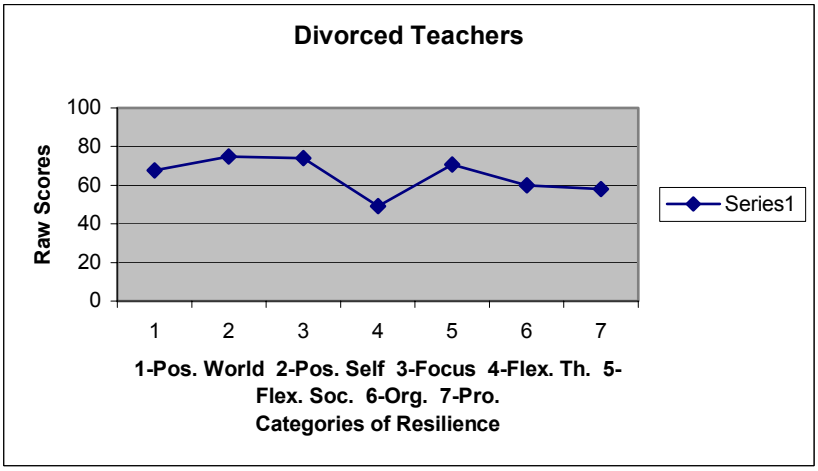
Means and Standard Deviations for the Four Groups within Each Dependent Variable for Post Hoc Analyses

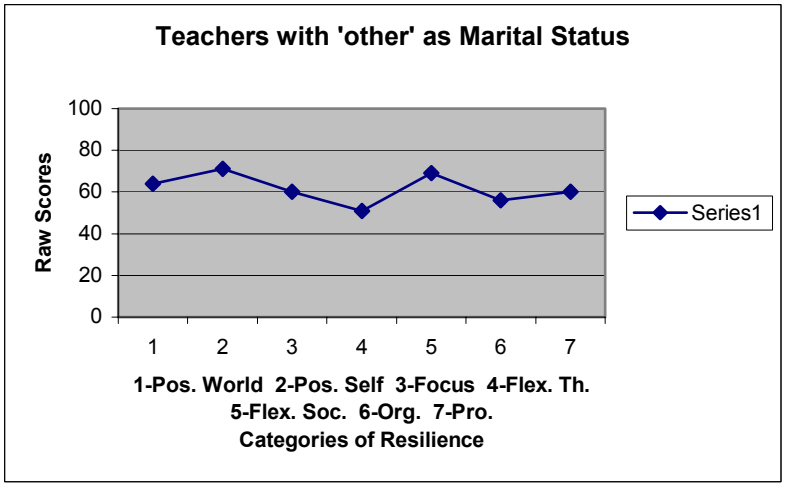
Resilient characteristics	Single		Married		Divorced		Other	
	M	SD	M	SD	M	SD	M	SD
Positive world	68.05	12.02	71.84	12.36	67.60	10.53	64.00	12.26
Positive self	75.08	12.04	76.72	11.34	74.80	13.08	71.00	11.56
Focus	69.60	13.52	*75.66	11.65	74.00	14.70	60.00	12.67
Flexible thoughts	56.12	11.97	55.75	13.03	49.20	12.62	51.00	12.64
Flexible social	69.24	12.70	70.27	11.81	70.80	10.73	69.00	12.02
Organized	59.79	15.58	*65.25	13.75	60.00	17.78	56.00	14.63
Proactive	58.07	12.08	58.09	12.00	58.00	12.73	60.00	11.96

Figure 4.4 shows the overall pattern of the resilient characteristics of each marital status classification and the comparison of all of the four classifications.




Married Teachers
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th.
5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Divorced Teachers
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th. 5-
Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Teachers with 'other' as Marital Status
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th.
5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience

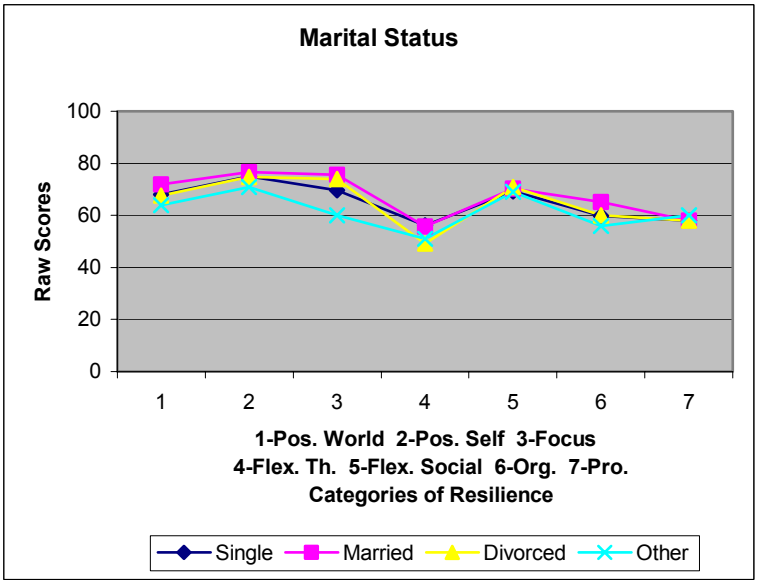


Figure 4.4. Overall pattern of resilient characteristics of teachers with or without children under age 18 living in their home and a comparison of the two classifications.

Research Question 5: Does the frequency with which a teacher exercises have an impact on his/her resilient characteristics according to these seven categories?

A one-way MANOVA was conducted to determine the effect of the frequency of exercise on the seven different categories of resilience. Statistically significant differences were not found among the five levels of exercise frequency on these seven categories of resilience. The results of Wilkes' $\Lambda = .853$, $F(28, 827.093) = 1.328$, $p = .120$. The multivariate η^2 is 0.039. Table 4.5 contains the means and standard deviations on the seven categories for these groups.

ANOVAs were conducted as follow-up tests to the MANOVA. Although the results of the Wilkes' Λ produced a nonsignificant result for the group as a whole, the follow-up ANOVAs show some distinction between these five groups. Using the Bonferroni method, each ANOVA was tested at the 0.05 level.

The ANOVA on the positive world category was nonsignificant, $F(4, 235) = 1.787$, $p = .132$, $\eta^2 = .03$. The ANOVA on the positive self category was significant, $F(4, 235) = 4.113$, $p = .003$, $\eta^2 = .065$. The ANOVA on the focus category was borderline significant, $F(4, 235) = 2.385$, $p = .052$, $\eta^2 = .039$. The ANOVA on the flexible thoughts category was nonsignificant, $F(4, 235) = .759$, $p = .553$, $\eta^2 = .013$. The ANOVA on the flexible social category was significant, $F(4, 235) = 3.299$, $p = .012$, $\eta^2 = .053$. The ANOVA on category of organization was significant, $F(4, 235) = 3.753$, $p = .006$, $\eta^2 = .060$. The ANOVA on the proactive category was nonsignificant, $F(4, 235) = .556$, $p = .695$, $\eta^2 = .009$.

Post hoc analyses for the positive self, focus, flexible social, and organization categories were conducted to determine which level of exercise frequency impacted these resilient characteristics the most. Because there are seven categories, the Bonferroni adjustment as well as the initial significance level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The group of teachers who exercised weekly recorded significantly higher scores on the positive self category compared with the group of teachers who rarely exercised, at the 0.05 significance level. The group of teachers who exercised three or more times a week recorded significantly higher scores on the positive self category compared with the group of teachers who rarely exercised, at the 0.05 significance level. The group of teachers who exercised three or more times a week recorded significantly higher scores on the positive self category compared with the teachers who exercised occasionally, at the 0.05 significance level.

The group of teachers who exercised three or more times a week recorded significantly higher scores on the focus category than the group of teachers who exercised rarely, at the 0.05 significance level. The other comparisons within the age groups were not significantly different from each other with regard to the focus category.

The group of teachers who exercised weekly recorded significantly higher scores on the flexible social category compared with the group of teachers who exercised rarely, at the 0.05 significance level.

The group of teachers who exercised twice a week recorded significantly higher scores on the organization category compared with the group of teachers who exercised rarely, at the 0.05 significance level.

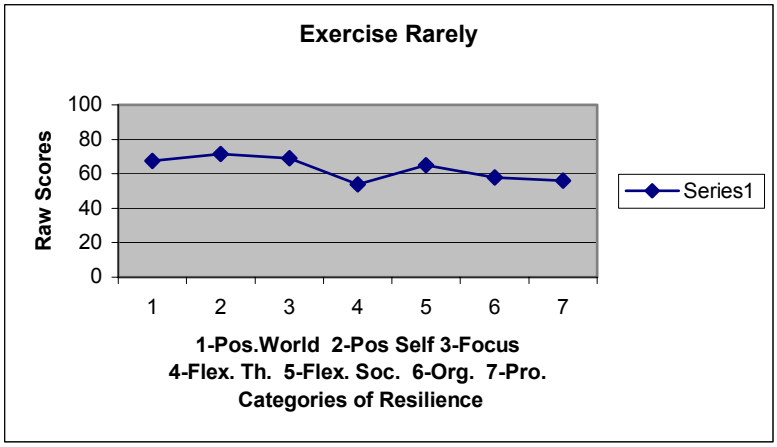
Thus, physical exercise had an impact on the resilient characteristics of teachers in several categories. Positive Self, Focus, Flexible Social, and Organization categories were all impacted by the frequency with which a teacher exercises.

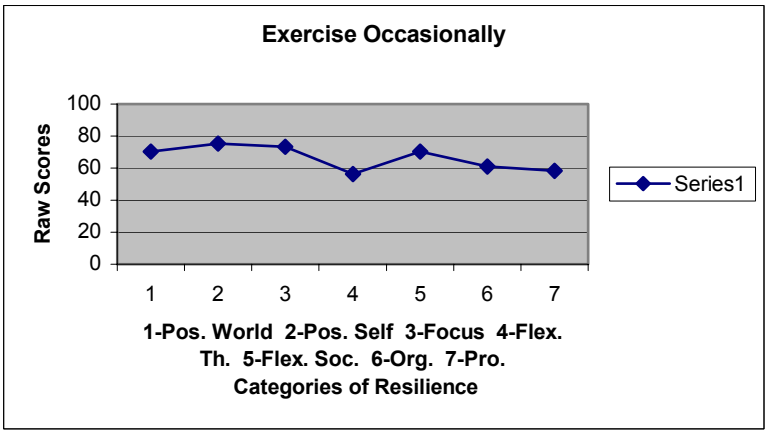
Table 4.5

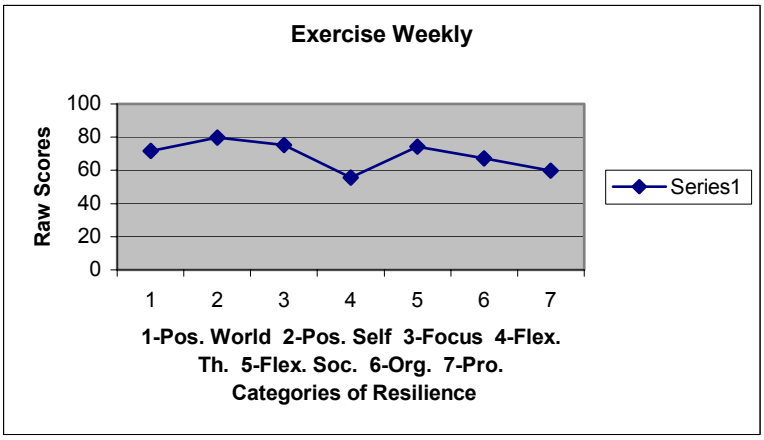
Means and Standard Deviations for the Five Groups Within Each Dependent Variable for Post Hoc Analyses

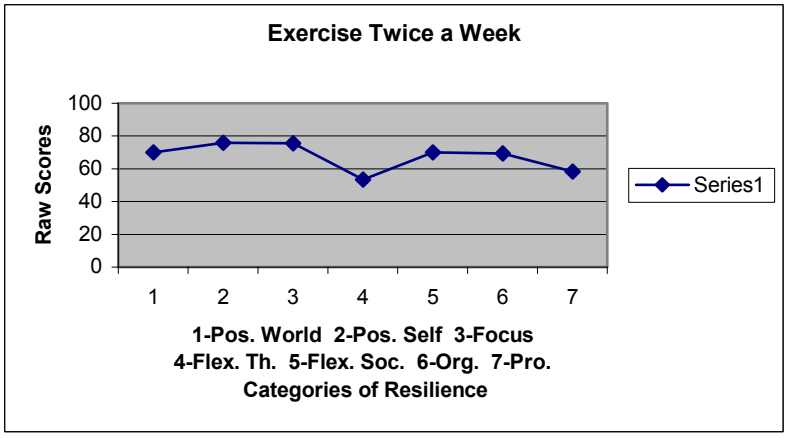
	M	SD	M	SD	M	SD	M	SD	M	SD
Pos.W.	67.38	12.97	70.17	12.89	71.73	11.05	70.04	10.91	73.28	11.28
Pos. S.	71.38	13.39	75.37	12.06	79.67	8.00	75.83	10.53	*79.06	9.90
Focus	68.93	12.18	73.27	13.63	*75.20	10.45	75.48	13.79	75.75	11.69
Flex.Th.	53.73	13.89	56.20	12.37	55.60	11.36	53.57	12.21	57.36	13.11
Flex. S	65.02	14.16	70.46	11.18	*74.27	10.37	69.91	12.31	71.01	10.12
Org.	58.04	14.48	60.97	15.31	67.13	12.67	*69.39	14.65	65.00	14.10
Pro.	56.09	11.61	58.26	12.20	59.93	10.30	58.43	13.47	58.83	12.23

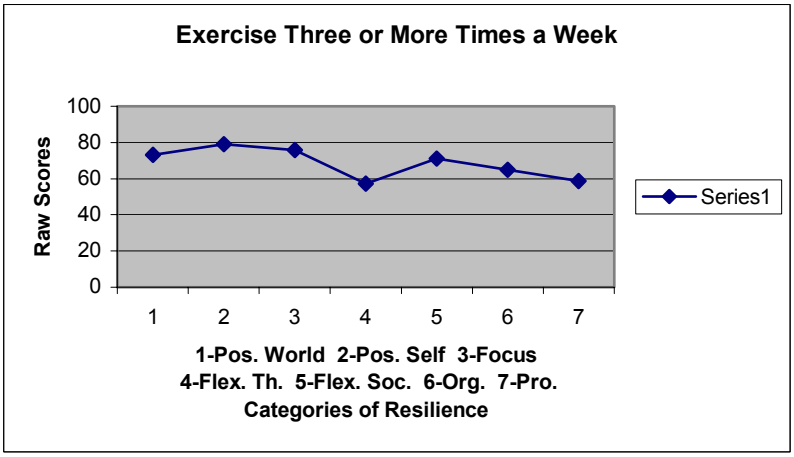
Figure 4.5 shows the overall pattern of the resilient characteristics of each level of exercise frequency and the comparison of all five levels.


Exercise Rarely
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos.World 2-Pos Self 3-Focus
4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Exercise Occasionally
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex.
Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Exercise Weekly
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex.
Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Exercise Twice a Week
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Exercise Three or More Times a Week
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience

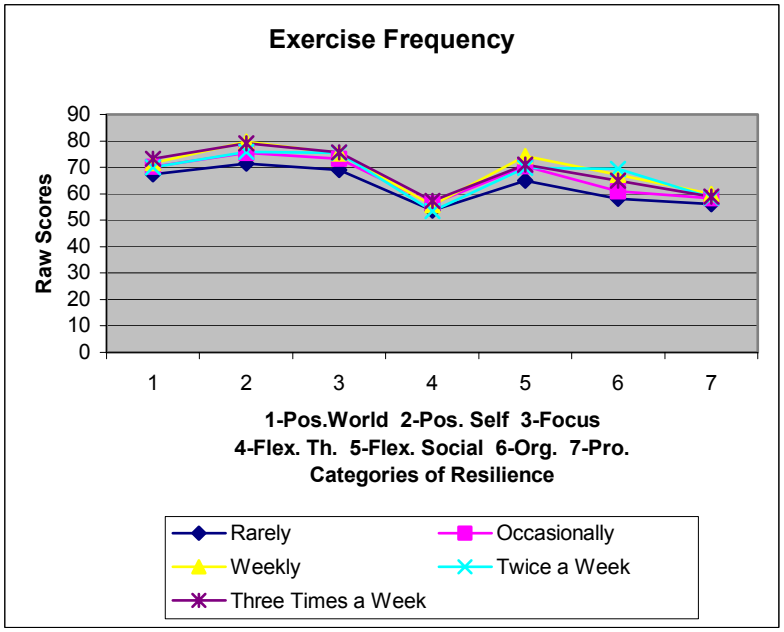


Figure 4.5. Overall pattern of resilient characteristics of each level of exercise frequency and a comparison of all five levels.

Research Question 6: Is there a relationship between the level of education completed by a teacher and his/her resilience, according to these seven categories?

A one-way MANOVA was conducted to determine the effect of the level of education completed by teachers on the seven different categories of resilience. Statistically significant differences were found among the three levels of education completed on these seven categories of resilience. The results of Wilkes' $\Lambda = .894$, $F(14, 462) = 1.902$, $p = .024$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for the three levels of education completed by the teacher is viable. The multivariate $\eta\ 2 = .055$. Table 4.6 contains the means and standard deviations on the seven categories for the three levels of education completed by the teacher.

ANOVAs were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .05 level. The ANOVA on the positive world category was nonsignificant, $\underline{F}(2,237) = .254$, $\underline{p} = .776$, $\eta^2 = .002$. The ANOVA on the positive self category was borderline significant, $\underline{F}(2, 237) = 2.988$, $\underline{p} = .052$, $\eta^2 = .025$. The ANOVA on the focus category was nonsignificant, $\underline{F}(2, 237) = 2.618$, $\underline{p} = .075$, $\eta^2 = .022$. The ANOVA on the flexible thoughts category was nonsignificant, $\underline{F}(2, 237) = .301$, $\underline{p} = .740$, $\eta^2 = .003$. The ANOVA on the flexible social category was nonsignificant, $\underline{F}(2, 237) = 2.379$, $\underline{p} = .095$, $\eta^2 = .020$. The ANOVA on category of organization was nonsignificant, $\underline{F}(2, 237) = 1.252$, $\underline{p} = .288$, $\eta^2 = .010$. The ANOVA on the proactive category was nonsignificant, $\underline{F}(2, 237) = 2.502$, $\underline{p} = .084$, $\eta^2 = 0.021$.

Post hoc analyses for the positive self category were conducted to determine which level of education completed by the teacher had the strongest impact on the resilience as described by these seven categories. Because there are seven categories, the Bonferroni adjustment as well as the initial significance level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The Ph.D. or equivalent degree group recorded significantly higher scores on the positive self category in comparison with the group of teachers who completed a four-year college degree, at the 0.05 significance level. The other comparisons within the age groups were not significantly different from each other. There were no significant differences at the 0.007 significance level in this category. The sample size had an impact on the results of this part of the study. The category with Ph.D. or equivalent degree had

only three participants rank at this level of completed education. In looking at the means and standard deviations in Table 4.5 it appears that the differences between the Ph.D. category and the other categories should be explored.

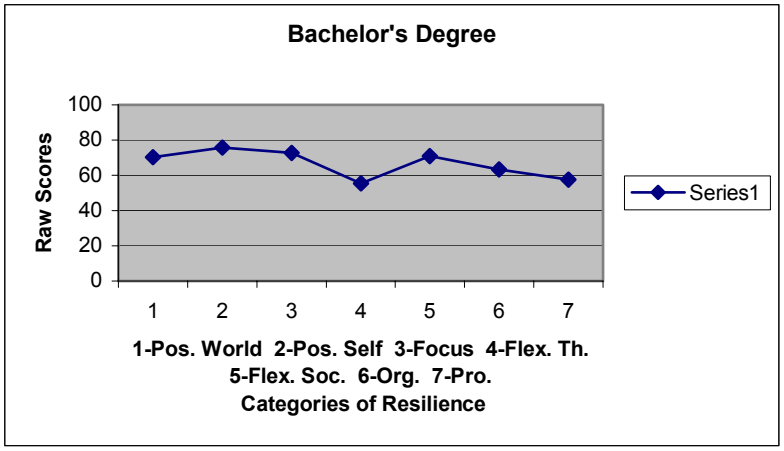
Thus, the completion of a Ph.D. or equivalent degree had a strong impact on the resilient characteristics of the teacher. Scores were consistently higher in every category for the teachers with a Ph.D. than the teachers with a bachelor's or a master's degree. The Positive Self category showed statistically significantly higher levels of resilience for the teachers with a Ph.D.

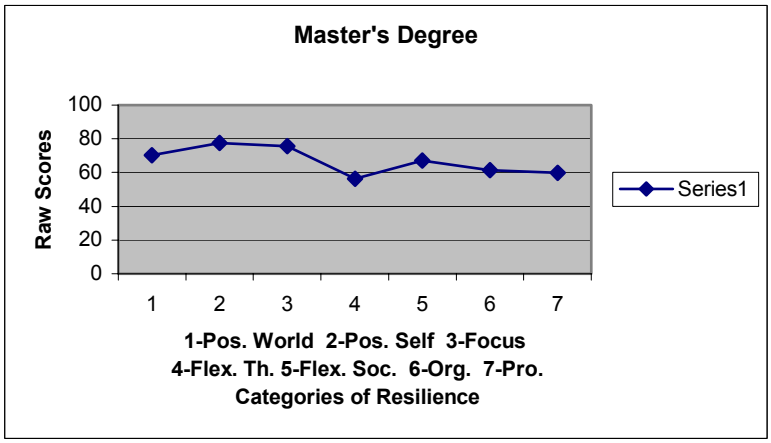
Table 4.6

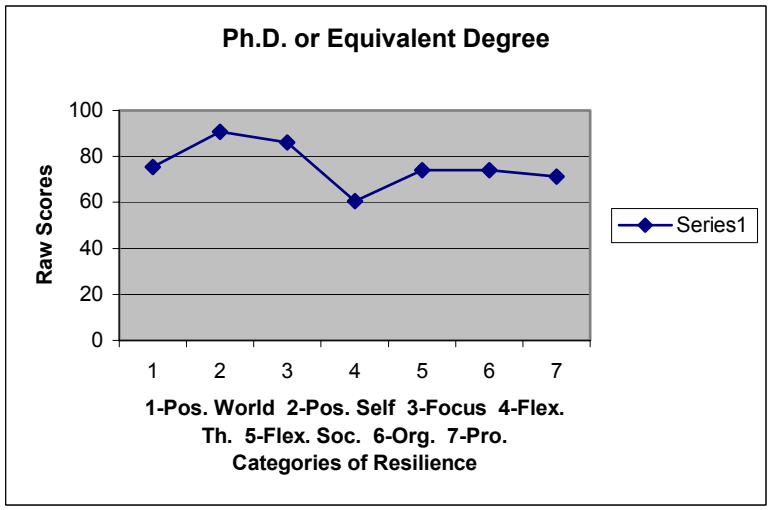
Means and Standard Deviations for the Three Groups within Each Dependent Variable for Post Hoc Analyses

Resilient characteristic	Bachelor's		Master's		Ph.D.	
	M	SD	M	SD	M	SD
Positive world	70.36	11.88	70.12	13.79	75.33	11.72
Positive self	75.39	11.32	77.48	11.17	90.67	7.57
Focus	72.73	12.45	75.68	12.74	86.00	9.17
Flexible thoughts	55.56	12.53	56.32	12.57	60.67	15.53
Flexible social	71.04	10.97	67.12	14.13	74.00	9.17
Organized	63.35	14.79	61.28	13.98	74.00	8.72
Proactive	57.63	11.83	59.72	11.66	71.33	10.07

Figure 4.6 shows the overall pattern of the resilient characteristics of each level of education completed by the teacher and the comparison of the three levels.


Bachelor's Degree
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th.
5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Master's Degree
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Ph.D. or Equivalent Degree
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex.
Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience

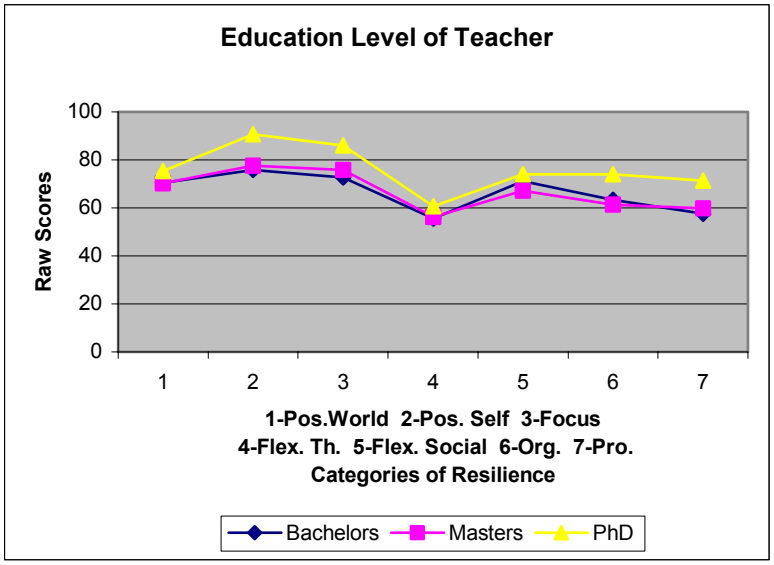


Figure 4.6. Overall pattern of resilient characteristics of each level of education completed by the teacher and a comparison of the three levels.

Research Question 7: Is there a relationship between the field in which a teacher is educated, certified, and his/her teaching assignment with his/her resilient characteristics, according to these seven categories?

A one-way MANOVA was conducted to determine the effect of the six different groups, describing possible combinations of education, certification, and teaching assignment, on the seven different categories of resilience. Statistically significant differences were found among the six groups on these seven categories of resilience. The results of Wilkes' $\Lambda = .799$, $F(35, 978.366) = 1.535$, $p = 0.025$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for these six categories is viable. The multivariate η^2 is 0.044. Tables 4.7, 4.8, and 4.9 contain the means and standard deviations on the seven categories for these six groups.

ANOVAs were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the 0.05 level. The ANOVA on the

positive world category was nonsignificant, $\underline{F}(5, 238) = 1.278$, $\underline{p} = .274$, $\eta^2 = .026$. The ANOVA on the positive self category was nonsignificant, $\underline{F}(5, 238) = 1.556$, $\underline{p} = 0.173$, $\eta^2 = 0.032$. The ANOVA on the focus category was nonsignificant, $\underline{F}(5, 238) = 0.281$, $\underline{p} = 0.923$, $\eta^2 = .006$. The ANOVA on the flexible thoughts category was nonsignificant, $\underline{F}(5, 238) = .882$, $\underline{p} = .493$, $\eta^2 = .018$. The ANOVA on the flexible social category was nonsignificant, $\underline{F}(5, 238) = .795$, $\underline{p} = .554$, $\eta^2 = .016$. The ANOVA on category of organization was significant, $\underline{F}(5, 238) = 2.572$, $\underline{p} = .027$, $\eta^2 = .027$. The ANOVA on the proactive category was borderline significant, $\underline{F}(5, 238) = 2.199$, $\underline{p} = 0.055$, $\eta^2 = .044$.

Post hoc analyses for the organization and proactive categories were conducted to determine which of these groups impacted these resilient characteristics most strongly. Because there are seven categories, the Bonferroni adjustment as well as the initial significance level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The group of teachers who are certified and teaching in the same field as their degree recorded significantly higher scores on the organization category in comparison with the group of teachers who are not certified but are educated in the field in which they are teaching, at the 0.05 significance level. The other comparisons within these groups were not significantly different from each other. There were no significant differences at the 0.007 significance level in this category.

Although the ANOVA on the proactive category was borderline significant, the post hoc comparisons within this category were not significantly different from each other.

In summary, the match between current teaching field, degree, and status of certification did not seem to have much of an impact on the resilient characteristics of the teachers.

Table 4.7

Means and Standard Deviations for the Six Groups within Each Dependent Variable for Post Hoc Analyses

Resilient characteristics	Cert./teaching assign./ degree in same field		Cert./teaching assign./ degree in different fields	
	M	SD	M	SD
Positive world	70.19	12.31	72.10	13.51
Positive self	76.17	11.45	74.67	8.93
Focus	73.41	13.29	73.14	12.24
Flexible thoughts	54.83	12.55	58.10	10.19
Flexible social	71.02	11.75	66.95	12.63
Organized	*64.56	14.96	62.48	13.39
Proactive	56.31	12.18	60.29	9.72

Table 4.8

Means and Standard Deviations for the Six Groups within Each Dependent Variable for Post Hoc Analyses

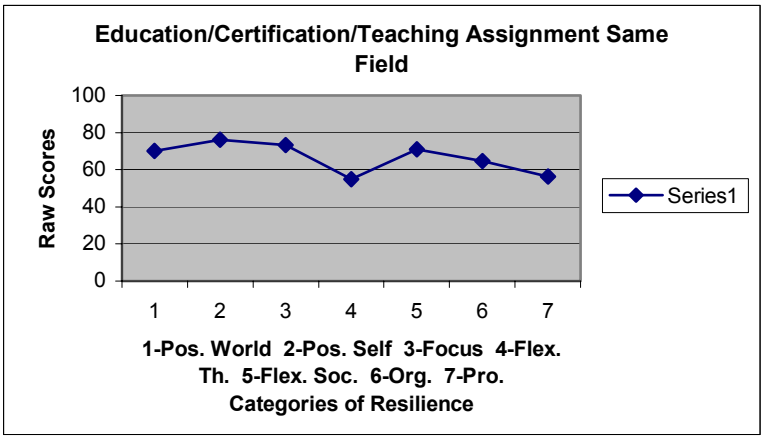
Resilient characteristics	Temp. cert./teaching assign./degree in same field		Temp. cert./teaching assign./ degree in different fields	
	M	SD	M	SD
Positive world	74.00	13.16	74.00	12.11
Positive self	83.67	9.41	80.00	16.08
Focus	75.05	11.32	79.00	15.71
Flexible thoughts	58.83	12.95	48.50	3.79
Flexible social	72.50	6.99	71.50	9.15
Organized	66.33	12.84	74.00	14.79
Proactive	64.83	9.00	62.00	13.37

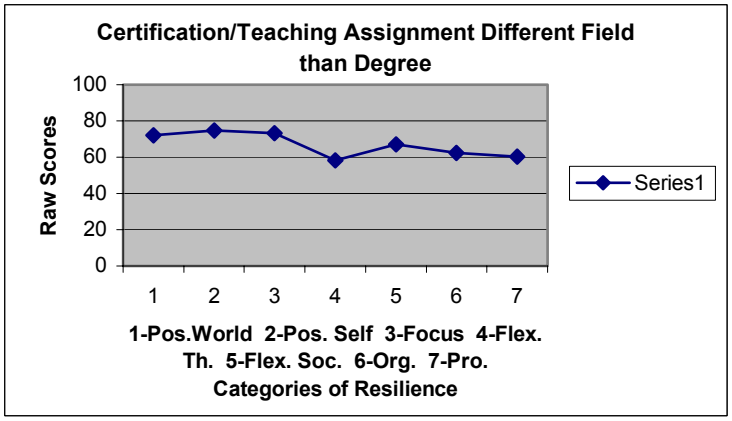
Table 4.9

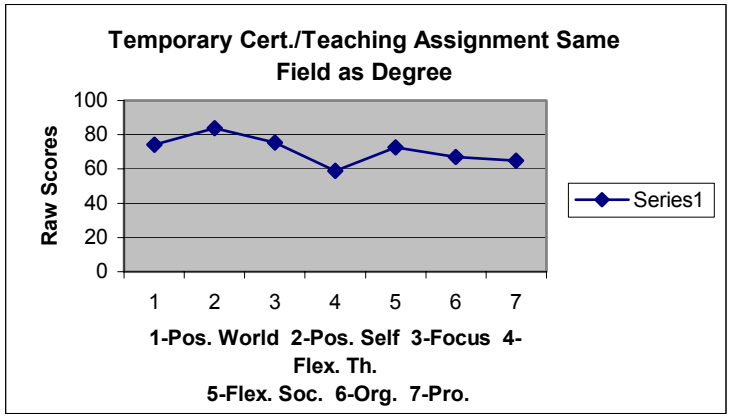
Means and Standard Deviations for the Six Groups within Each Dependent Variable for Post Hoc Analyses

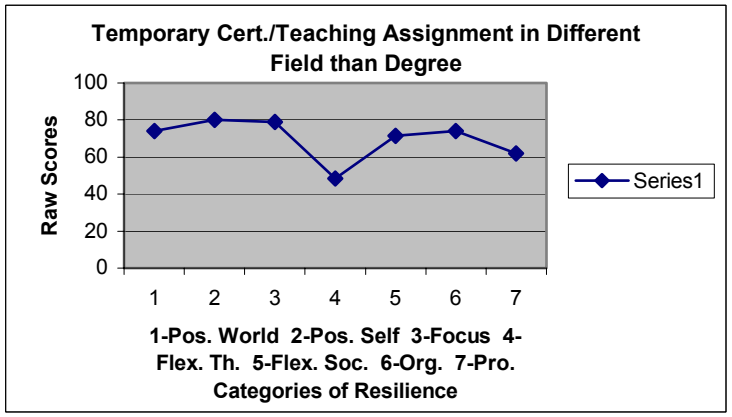
Resilient characteristics	Degree/teaching assign. in same field—no certification		No degree or certification in same field as teaching assign.	
	M	SD	M	SD
Positive world	68.42	11.39	78.00	10.36
Positive self	75.05	11.49	71.50	16.89
Focus	72.47	11.08	72.75	16.46
Flexible thoughts	57.27	13.29	56.75	14.50
Flexible social	68.55	11.70	69.25	14.85
Organized	57.56	13.87	67.00	16.63
Proactive	59.96	10.90	62.50	16.03

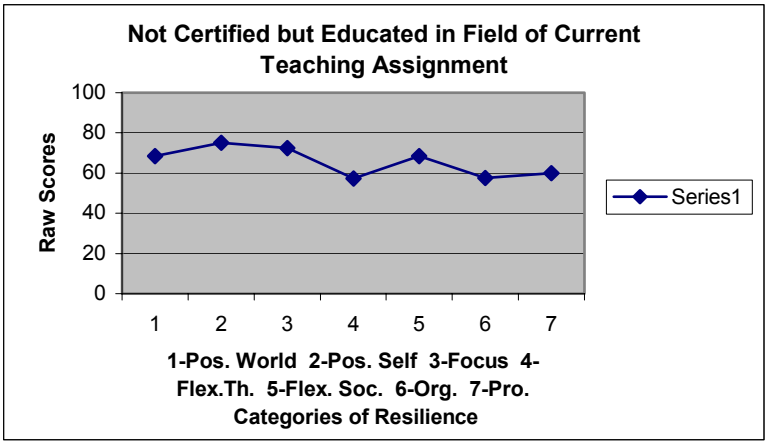
Figure 4.7 shows the overall pattern of the resilient characteristics of each level of education completed by the teacher and the comparison of the three levels.

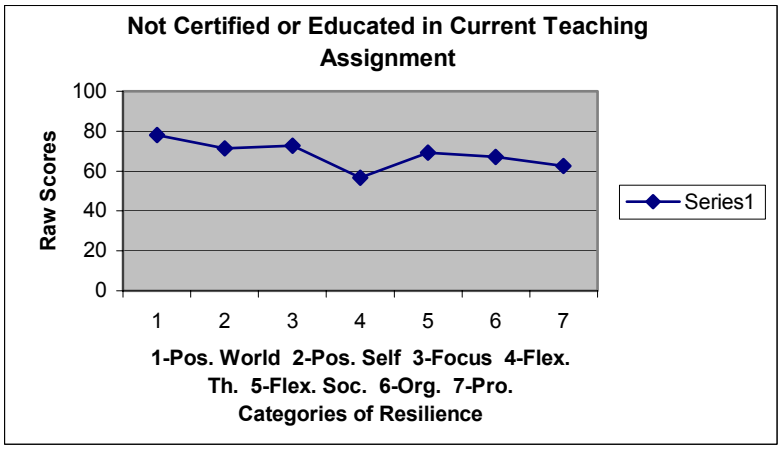



Certification/Teaching Assignment Different Field than Degree
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos.World 2-Pos. Self 3-Focus 4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Temporary Cert./Teaching Assignment Same Field as Degree
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th.
5-Flex. Soc. 6-Org. 7-Pro.


Temporary Cert./Teaching Assignment in Different Field than Degree
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Not Certified but Educated in Field of Current Teaching Assignment
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex.Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Not Certified or Educated in Current Teaching Assignment
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience

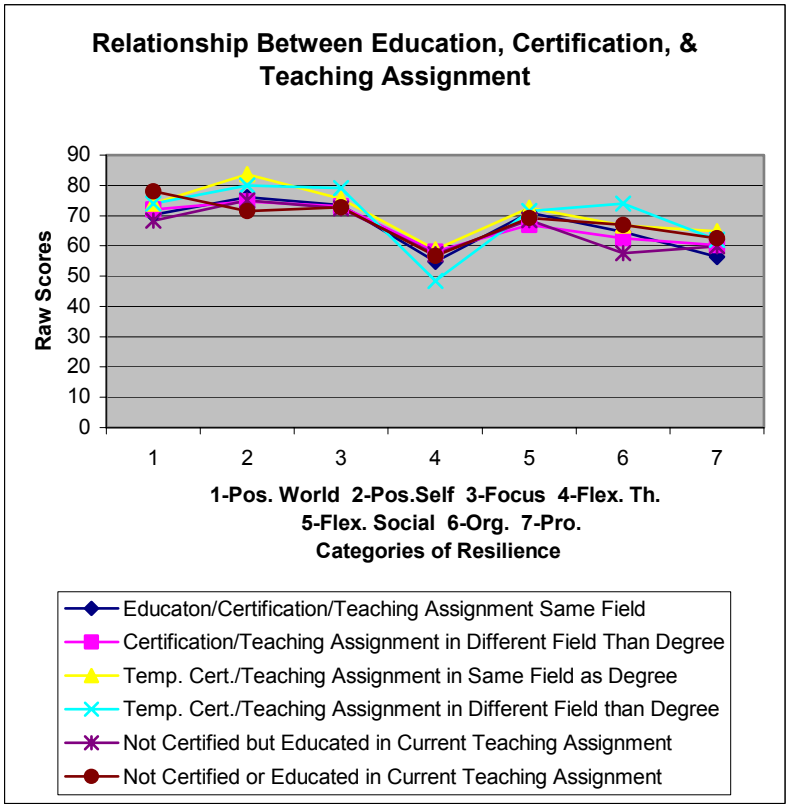


Figure 4.7. Overall pattern of resilient characteristics of each level of education completed by the teacher and a comparison of the three levels.

Research Question 8: Is there a relationship between the years of classroom teaching experience and the resilient characteristics, according to these seven categories?

A one-way MANOVA was conducted to determine the effect of the years of classroom teaching experience on the seven different categories of resilience. Statistically significant differences were not found among the three levels of classroom teaching experience on these seven categories of resilience. The results of Wilkes' $\Lambda = .969$, $F(14, 472) = .535$, $p = .912$. The multivariate η^2 is 0.016. Table 4.9 contains the means and standard deviations on the seven categories for these groups.

ANOVAs were conducted as follow-up tests to the MANOVA. The results of the Wilkes' Λ produced a nonsignificant result for the group as a whole, and the follow-up ANOVAs showed statistically significant distinction between these three groups. Using the Bonferroni method, each ANOVA was tested at the 0.05 significance level.

The ANOVA on the positive world category was nonsignificant, $\underline{F}(2, 242) = .571$, $\underline{p} = .566$, $\eta^2 = 0.005$. The ANOVA on the positive self category was nonsignificant, $\underline{F}(2, 242) = .878$, $\underline{p} = .417$, $\eta^2 = 0.007$. The ANOVA on the focus category was nonsignificant, $\underline{F}(2, 242) = 1.567$, $\underline{p} = .211$, $\eta^2 = .013$. The ANOVA on the flexible thoughts category was nonsignificant, $\underline{F}(2, 242) = .018$, $\underline{p} = .983$, $\eta^2 = 0.000$. The ANOVA on the flexible social category was nonsignificant, $\underline{F}(2, 242) = .070$, $\underline{p} = .933$, $\eta^2 = 0.001$. The ANOVA on category of organization was nonsignificant, $\underline{F}(2, 242) = .674$, $\underline{p} = .511$, $\eta^2 = .006$. The ANOVA on the proactive category was nonsignificant, $\underline{F}(2, 242) = .077$, $\underline{p} = .926$, $\eta^2 = 0.001$.

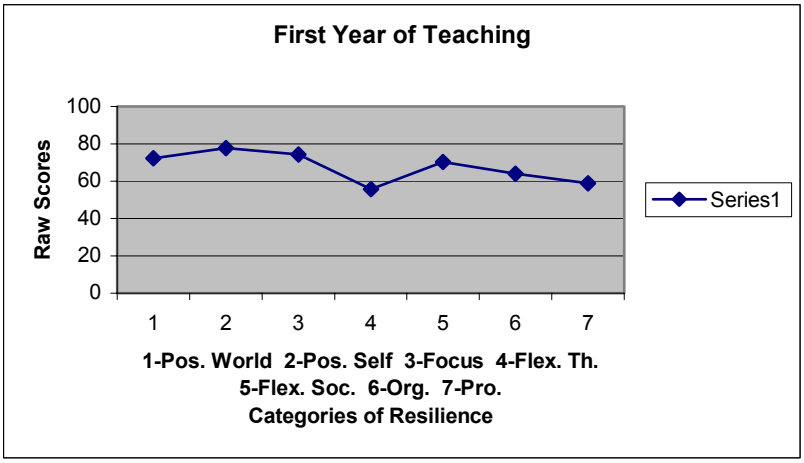
Based on these findings for this group of participants, rejection of the hypothesis that the population means on the dependent variables are the same for the three categories of years of classroom teaching experience is not possible. Thus, the differences between one, two, or three years of classroom experience did not seem to have a significant impact on the resilient characteristics of the teacher in these seven categories.

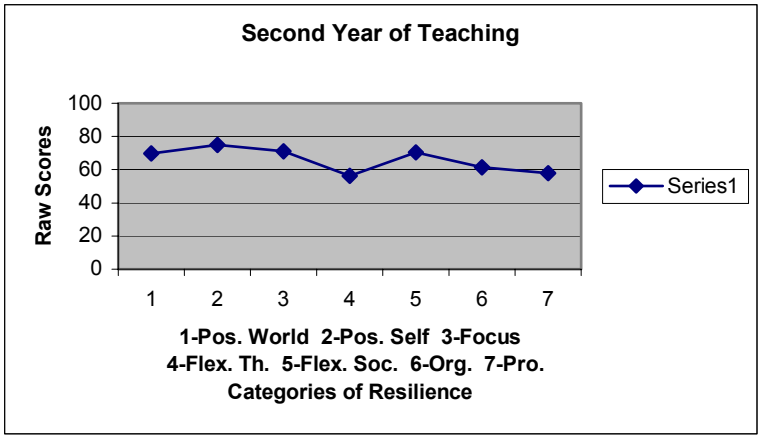
Table 4.10

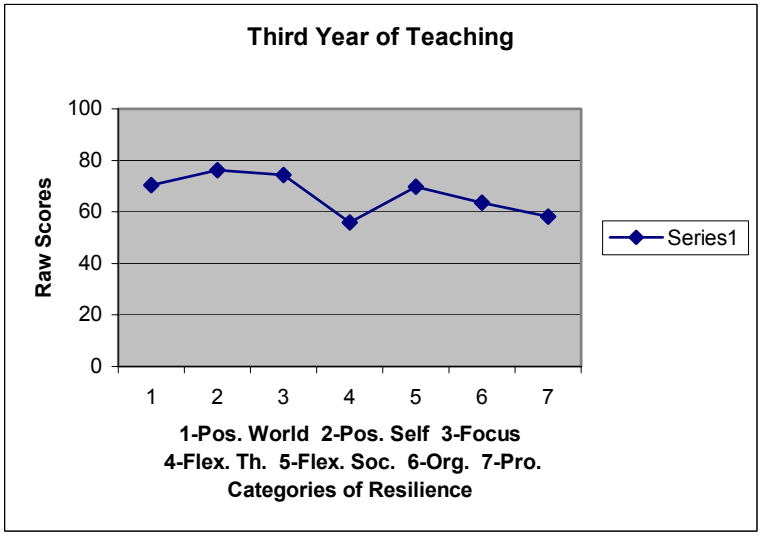
Means and Standard Deviations of the Three Groups within Each Dependent Variable for Post Hoc Analyses

Resilient characteristics	First year of teaching		Second year of teaching		Third year of teaching	
	M	SD	M	SD	M	SD
Positive world	72.21	12.41	69.85	13.33	70.29	11.59
Positive self	77.79	12.27	74.86	11.60	76.14	11.23
Focus	74.17	13.84	71.08	14.09	74.37	11.44
Flexible thoughts	55.79	12.48	56.15	11.73	55.82	13.13
Flexible social	70.40	13.07	70.34	12.10	69.80	11.12
Organized	64.00	14.58	61.26	13.15	63.62	15.55
Proactive	58.85	12.47	57.97	11.17	58.26	12.01

Figure 4.8 shows the overall pattern of the resilient characteristics of each level of teaching experience and the comparison of the three levels.




Second Year of Teaching
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Third Year of Teaching
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience

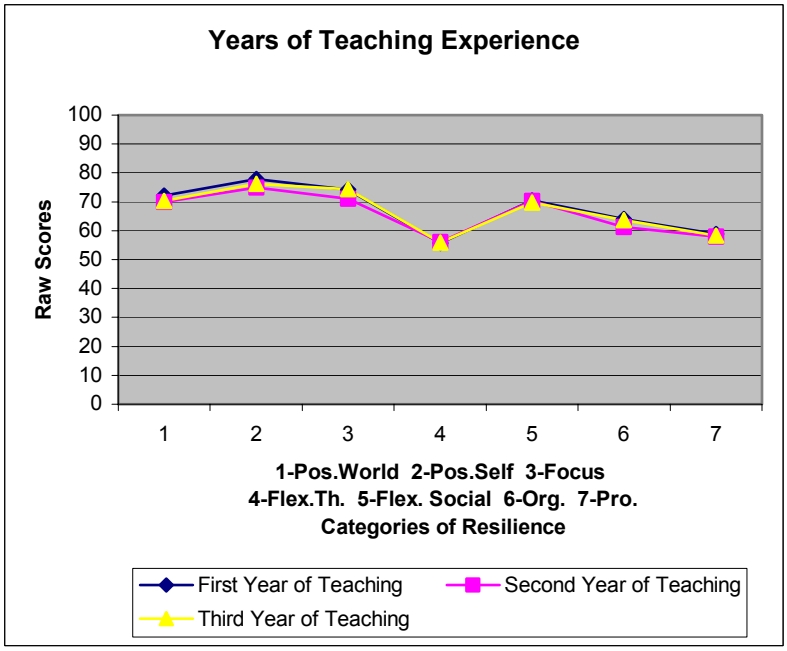


Figure 4.8. Overall pattern of resilient characteristics of each level of teaching experience and a comparison of the three levels.

Research Question 9: Is there a relationship between the school level in which the teacher works with the resilient characteristics, according to these seven categories?

A one-way MANOVA was conducted to determine the effect of the three different school levels: elementary (Kindergarten through fifth grade), Junior High (sixth grade through eighth grade), and High School (ninth grade through twelfth grade), on the seven different categories of resilience. Statistically significant differences were found among the three groups on these seven categories of resilience. The results of Wilkes' $\Lambda = .866$, $F(14, 456) = 2.427$, $p = .003$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for these three categories is viable. The multivariate η^2 is 0.069. Table 4.11 contains the means and standard deviations on the seven categories for these three groups.

ANOVAs were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .05 level. The ANOVA on the positive world category was nonsignificant, $F(2, 234) = .672$, $p = .511$, $\eta^2 = 0.006$. The ANOVA on the positive self category was nonsignificant, $F(2, 234) = 1.119$, $p = .328$, $\eta^2 = .009$. The ANOVA on the focus category was nonsignificant, $F(2, 234) = 1.022$, $p = .361$, $\eta^2 = .009$. The ANOVA on the flexible thoughts category was nonsignificant, $F(2, 234) = 1.988$, $p = .139$, $\eta^2 = .017$. The ANOVA on the flexible social category was nonsignificant, $F(2, 234) = 1.266$, $p = .284$, $\eta^2 = .011$. The ANOVA on category of organization was significant, $F(2, 234) = 3.499$, $p = .032$, $\eta^2 = 0.029$. The ANOVA on the proactive category was significant, $F(2, 234) = 3.757$, $p = .025$, $\eta^2 = 0.031$.

Post hoc analyses for the organization and proactive categories were conducted to determine which of these groups impacted these resilient characteristics most strongly. Because there are seven categories, the Bonferroni adjustment as well as the initial significance level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The group of teachers who teach Elementary recorded significantly higher scores on the organization category in comparison with the group of teachers who teach High School, at the 0.05 significance level. The other comparisons within these groups were not significantly different from each other. There were no significant differences at the 0.007 significance level in this category.

The group of teachers who teach High School recorded significantly higher scores on the proactive category in comparison with the group of teachers who teach Elementary School, according to the 0.05 significance level. The other comparisons within these

groups were not significantly different from each other. There were no significant differences at the 0.007 significance level.

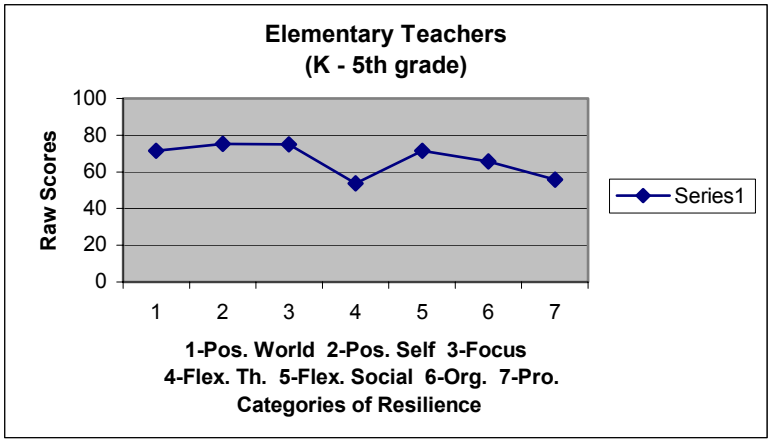
Organization and Proactive were the categories representing the resilient characteristics impacted by the school level of the teacher.

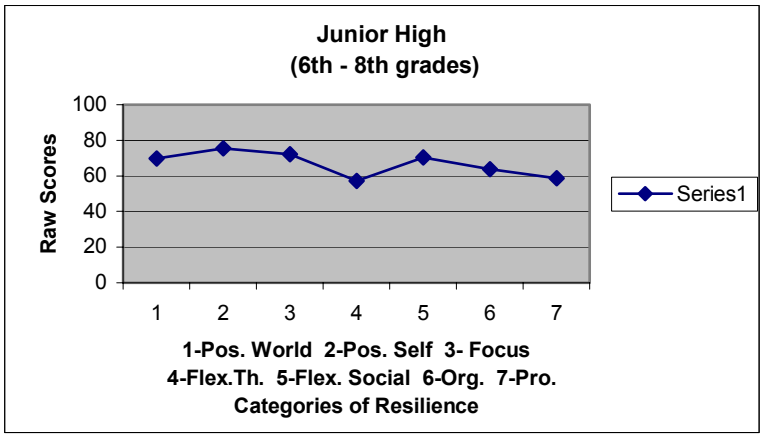
Table 4.11

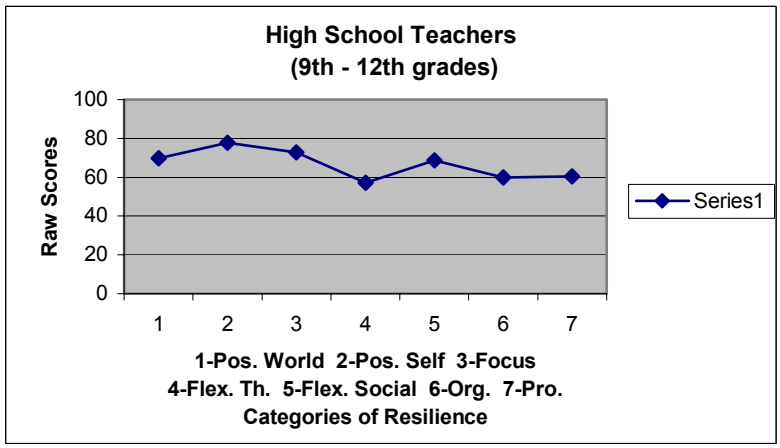
Means and Standard Deviations for the Three Groups within Each Dependent Variable for Post Hoc Analyses

Resilient characteristics	Elementary (K – 5th grade)		Junior High (6th – 8th grade)		High School (9th –12th grade)	
	M	SD	M	SD	M	SD
Positive world	71.62	11.72	69.73	11.75	69.81	12.89
Positive self	75.42	11.26	75.53	11.44	77.78	11.65
Focus	74.89	11.71	72.24	14.35	72.76	12.59
Flexible thoughts	53.86	11.67	57.14	10.82	57.16	14.50
Flexible social	71.53	11.62	70.35	12.26	68.81	11.21
Organized	*65.57	14.81	63.65	12.12	59.86	16.03
Proactive	55.86	11.73	58.55	10.87	*60.55	12.09

Figure 4.9 shows the overall pattern of the resilient characteristics of each school level and the comparison of the three levels.




Junior High
(6th - 8th grades)
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3- Focus
4-Flex.Th. 5-Flex. Social 6-Org. 7-Pro.
Categories of Resilience


High School Teachers
(9th - 12th grades)
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Social 6-Org. 7-Pro.
Categories of Resilience

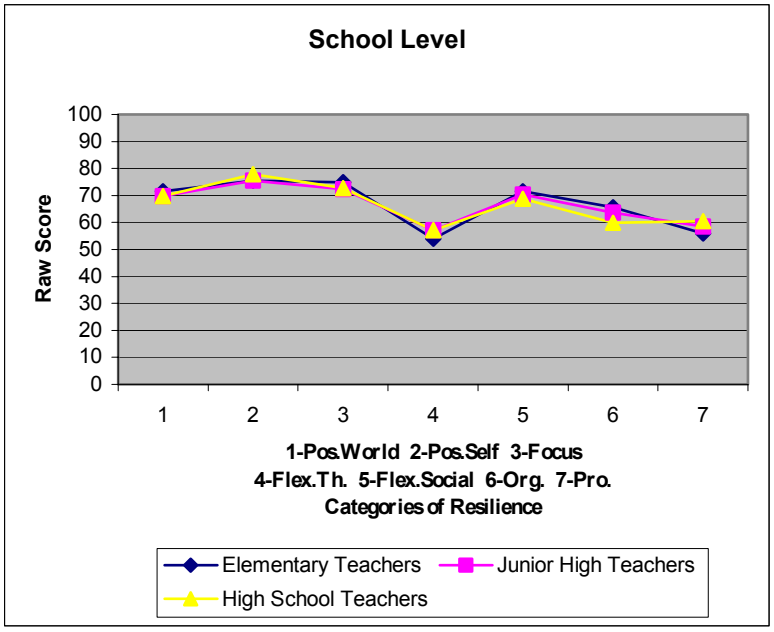


Figure 4.9. Overall pattern of resilient characteristics of each school level and a comparison of the three levels.

Research Question 10: Is there a relationship between the self-described degree of spirituality and/or religious connection with the resilient characteristics, according to these seven categories?

A one-way MANOVA was conducted to determine the effect of five different self-descriptions of the level of spirituality and/or religious connection, on the seven different categories of resilience. Statistically significant differences were found among the five groups on these seven categories of resilience. The results of Wilkes' $\Lambda = .793$, $F(28, 848.727) = 2.013$, $p = .002$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for these five categories is viable. The multivariate η^2 is 0.056. Table 4.12 contains the means and standard deviations on the seven categories for these five groups.

ANOVAs were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the 0.05 level. The ANOVA on the positive world category was significant, $\underline{F}(4, 241) = 3.319$, $\underline{p} = .011$, $\eta^2 = .052$. The ANOVA on the positive self category was significant, $\underline{F}(4, 241) = 2.703$, $\underline{p} = .031$, $\eta^2 = .043$. The ANOVA on the focus category was significant, $\underline{F}(4, 241) = 4.118$, $\underline{p} = .003$, $\eta^2 = .064$. The ANOVA on the flexible thoughts category was nonsignificant, $\underline{F}(4, 241) = 2.016$, $\underline{p} = .093$, $\eta^2 = .032$. The ANOVA on the flexible social category was significant, $\underline{F}(4, 241) = 4.633$, $\underline{p} = .001$, $\eta^2 = .071$. The ANOVA on category of organization was nonsignificant, $\underline{F}(4, 241) = .670$, $\underline{p} = .613$, $\eta^2 = .011$. The ANOVA on the proactive category was nonsignificant, $\underline{F}(4, 241) = 1.715$, $\underline{p} = .147$, $\eta^2 = .028$.

Post hoc analyses for the positive world, positive self, focus, and flexible social categories were conducted to determine which of these groups impacted these resilient characteristics most strongly. Because there are seven categories, the Bonferroni adjustment as well as the initial significance level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The group of teachers who described themselves as extremely religious or spiritual recorded significantly higher scores on the positive world category in comparison with the group of teachers described themselves as somewhat religious or spiritual, at the 0.05 significance level. The other comparisons within these groups were not significantly different from each other. There were no significant differences at the 0.007 significance level in this category.

Although the Wilke's Λ results indicate a statistically significant differences among groups on the population means, the follow-up ANOVAs, do not indicate statistically significant differences on the positive self category.

The group of teachers who described themselves as extremely religious or spiritual recorded significantly higher scores on the focus category in comparison with the group of teachers described themselves as somewhat religious or spiritual, at the 0.05 significance level. The other comparisons within these groups were not significantly different from each other. There were no significant differences at the 0.007 significance level in this category.

The group of teachers who described themselves as extremely religious or spiritual recorded significantly higher scores on the flexible social category in comparison with the group of teachers described themselves as somewhat religious or spiritual, at the 0.05 significance level. The group of teacher who described themselves as extremely religious or spiritual recorded significantly higher scores in the flexible social category than the teachers who described themselves as highly religious or spiritual, at the 0.05 significance level. There were no significant differences at the 0.007 significance level in this category.

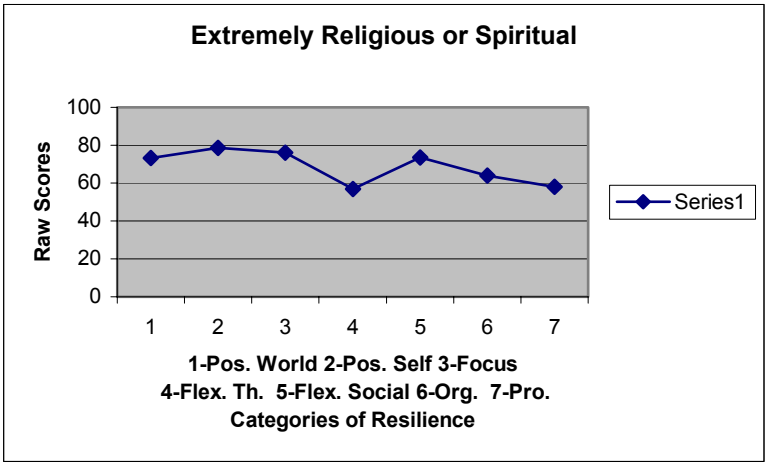
Thus, the degree to which a teacher ranks himself or herself as religious or spiritual has an impact on the resilient characteristics in the categories of Positive World, Focus, and Flexible Social.

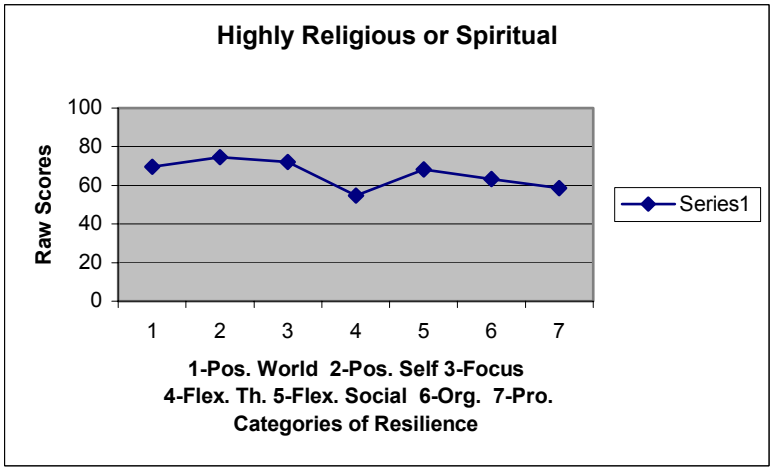
Table 4.12

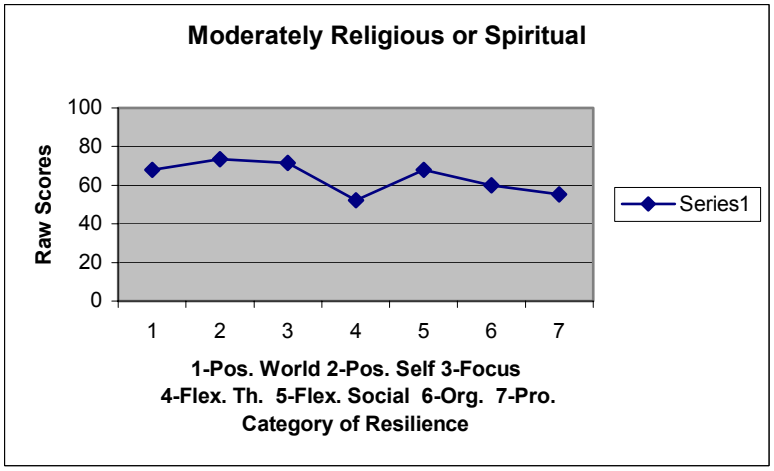
Means and Standard Deviations for the Five Groups within Each Dependent Variable for Post Hoc Analyses

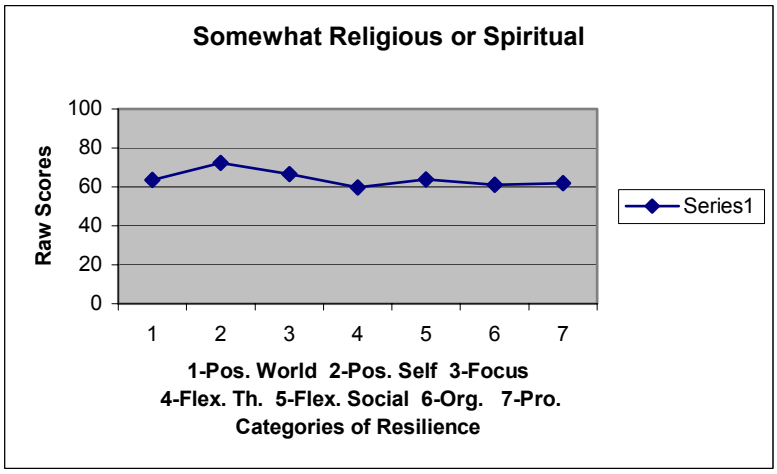
Resilience	Extremely		Highly		Moderately		Somewhat		Not at all	
	M	SD	M	SD	M	SD	M	SD	M	SD
Positive world	73.18	10.88	69.51	11.52	68.00	14.41	63.44	12.76	72.00	26.68
Positive self	78.68	10.48	74.68	9.87	73.47	15.73	72.33	11.00	79.50	22.47
Focus	75.96	10.81	72.14	10.09	71.47	18.05	66.67	17.19	87.00	16.37
Flexible thoughts	56.91	11.40	54.62	13.27	52.33	13.87	59.67	11.87	65.50	14.18
Flexible social	73.53	11.11	68.31	10.29	67.97	11.33	63.89	14.66	72.00	18.83
Organized	63.84	14.59	63.23	14.18	59.93	16.50	61.22	13.91	69.50	23.57
Proactive	58.02	11.82	58.46	11.49	55.20	13.30	61.89	10.64	68.50	4.12

Figure 4.10 shows the overall pattern of the resilient characteristics of each possible degree of self-ranking of religious or spiritual affiliation and the comparison of the five levels.




Highly Religious or Spiritual
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Social 6-Org. 7-Pro.
Categories of Resilience


Moderately Religious or Spiritual
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Social 6-Org. 7-Pro.
Category of Resilience


Somewhat Religious or Spiritual
Raw Scores
100
80
60
40
20
0
1
2
3
4
5
6
7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Social 6-Org. 7-Pro.
Categories of Resilience

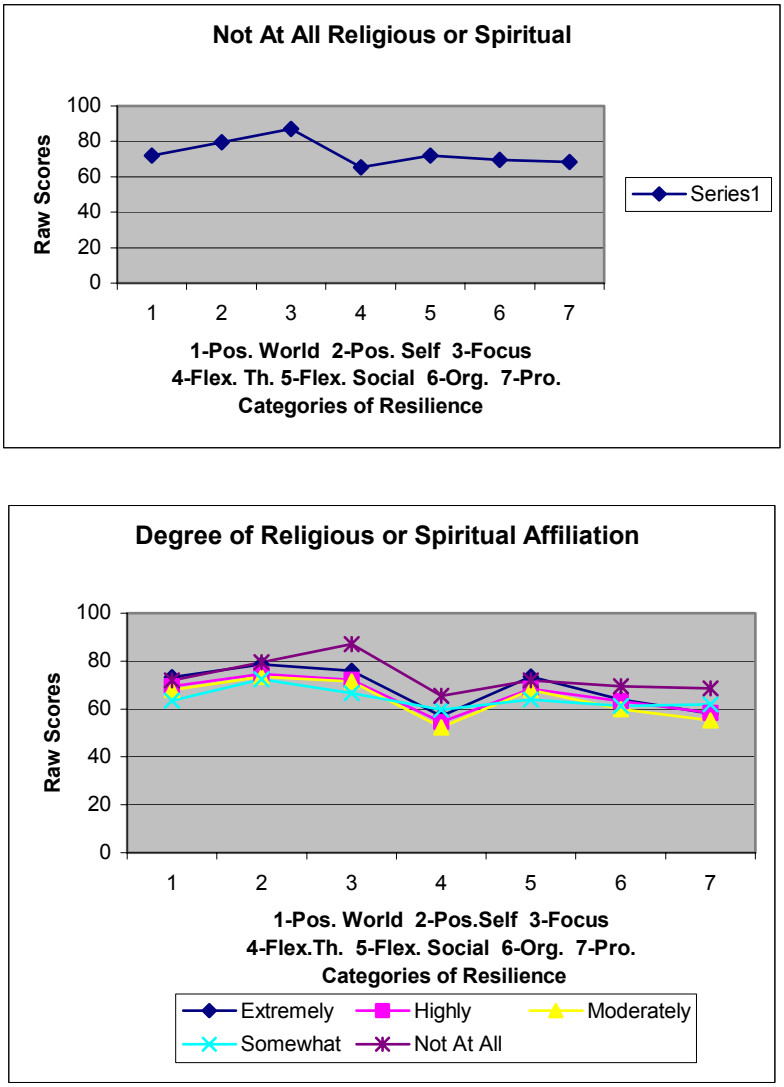


Figure 4.10. Overall pattern of resilient characteristics of each possible degree of self-ranking of religious or spiritual affiliation and a comparison of the five levels.

Research Question 11: Is there a relationship between the presence of resilient characteristics and the ability to keep work separate from the rest of life, according to these seven categories?

A one-way MANOVA was conducted to determine the effect of four self-described abilities of keeping work separate from the rest of the teacher's life, on the seven different categories of resilience. Statistically significant differences were found

among these four levels on these seven categories of resilience. The results of Wilkes' Λ = .822, $F(21, 675.343) = 2.271$, $p = .001$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for the three levels of education completed by the teacher is viable. The multivariate η^2 is 0.063. Tables 4.13 and 4.14 contain the means and standard deviations on the seven categories for these four levels.

ANOVAs were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .05 level. The ANOVA on the positive world category was significant, $F(3, 241) = 3.363$, $p = .019$, $\eta^2 = 0.040$. The ANOVA on the positive self category was nonsignificant, $F(3, 241) = 1.163$, $p = .325$, $\eta^2 = .014$. The ANOVA on the focus category was borderline significant, $F(3, 241) = 2.581$, $p = .054$, $\eta^2 = 0.031$. The ANOVA on the flexible thoughts category was nonsignificant, $F(3, 241) = 1.928$, $p = .126$, $\eta^2 = 0.023$. The ANOVA on the flexible social category was significant, $F(3, 241) = 3.567$, $p = .015$, $\eta^2 = .043$. The ANOVA on category of organization was significant, $F(3, 241) = 6.902$, $p = .000$, $\eta^2 = .079$. The ANOVA on the proactive category was nonsignificant, $F(3, 241) = .435$, $p = .728$, $\eta^2 = 0.005$.

Post hoc analyses for the positive world, focus, flexible social, and organization categories were conducted to determine which of these four levels had the strongest impact on the resilience as described by these seven categories. Because there are seven categories, the Bonferroni adjustment as well as the initial significance level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The group of teachers who described themselves as allowing their work and other activities to overlap to some extent recorded significantly higher scores on the positive world category in comparison with the group of teachers who described themselves as keeping their work mostly separate from the rest of their life, at the 0.05 significance level. The other comparisons within the age groups were not significantly different from each other. There were no significant differences at the 0.007 significance level in this category.

The results of the ANOVA on the focus category was borderline significant but the post hoc analyses revealed no statistically significant differences within these four levels of self-described ability to keep work separate from the rest of their life.

The group of teachers who described themselves as allowing their work and other activities to overlap to some extent recorded significantly higher scores on the flexible social category in comparison with the group of teachers who described themselves as keeping their work mostly separate from the rest of their life, at the 0.05 significance level. The other comparisons within the age groups were not significantly different from each other. There were no significant differences at the 0.007 significance level in this category.

The group of teachers who described themselves as able to keep work mostly separate from the rest of their life recorded significantly higher scores on the organization category than the group of teachers who described their work as highly intertwined with the rest of their life, at the 0.05 significance level. The group of teachers who described themselves as allowing their work and other activities to overlap to some extent recorded significantly higher scores on the organization category than two groups of teachers, the

group who described themselves as allowing work and other activities to overlap to a great extent and the group of teachers who described their work as highly intertwined with the rest of their life, at the 0.007 and the 0.05 significance levels.

Thus, the degree to which a teacher's work and life intertwine has an impact on the resilient characteristics of the teacher in the categories of Positive World, Flexible Social, and Organization.

Table 4.13

Variables in Hypothesis 12

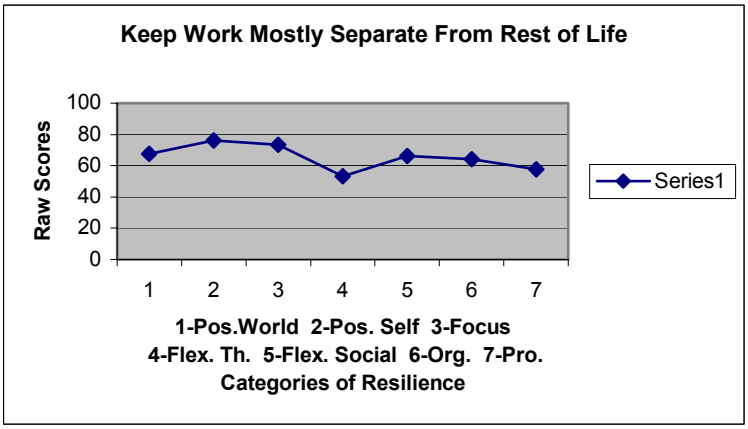
Variable	Definition
1	Teacher self-description of being able to keep work mostly separate from the rest of his/her life.
2	Teacher self-description of allowing work and other activities to overlap to some extent.
3	Teacher self-description of allowing work and other activities to overlap to a great extent.
4	Teacher self-description of work being highly intertwined with the rest of life.

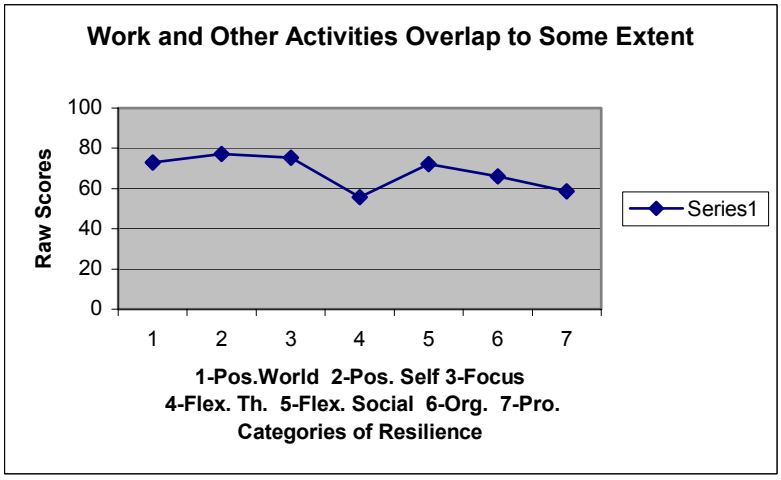
Table 4.14

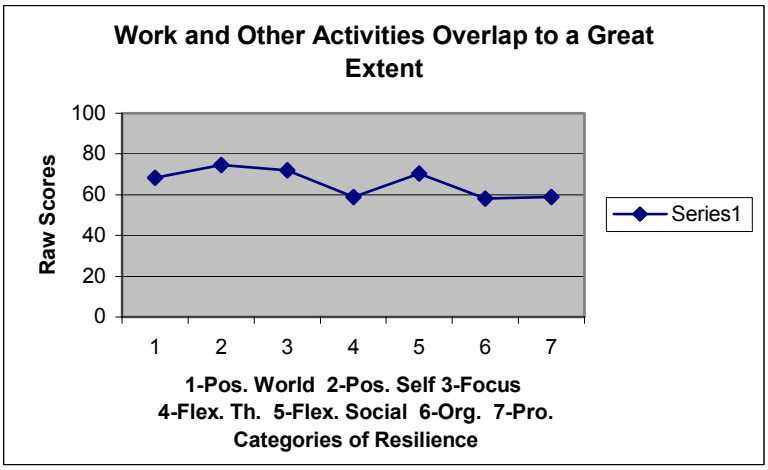
Means and Standard Deviations for the Four Groups within Each Dependent Variable for Post Hoc Analyses

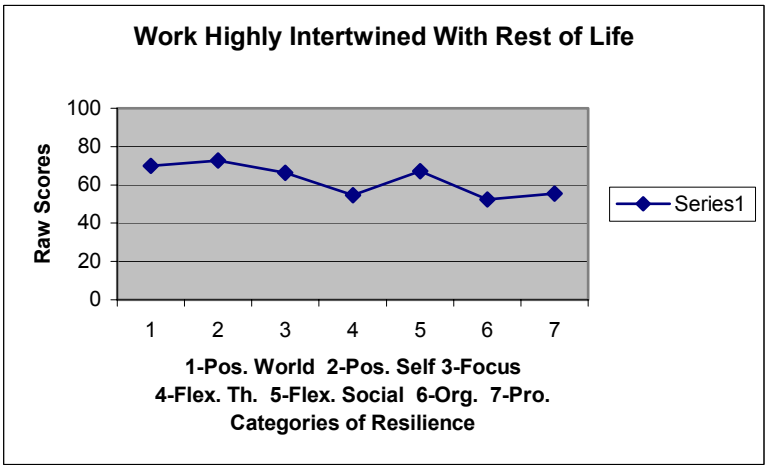
Resilience	1		2		3		4	
	M	SD	M	SD	M	SD	M	SD
Positive world	67.53	13.18	*72.93	12.50	68.24	10.30	69.86	11.35
Positive social	76.23	11.64	77.27	10.77	74.59	12.21	72.71	13.12
Focus	73.40	14.00	75.21	11.47	72.03	11.96	66.29	16.32
Flexible thoughts	53.40	11.82	55.70	12.73	58.97	13.76	54.57	5.89
Flexible social	66.36	12.86	*72.18	10.39	70.38	11.41	67.00	14.27
Organized	*64.08	13.27	*66.18	14.32	58.14	13.67	52.43	19.30
Proactive	57.58	11.36	58.63	12.27	59.00	11.61	55.43	11.38

Figure 4.11 shows the overall pattern of the resilient characteristics of each possible relationship between work and the rest of life and the comparison of the four levels.




Work and Other Activities Overlap to Some Extent
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos.World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Social 6-Org. 7-Pro.
Categories of Resilience


Work and Other Activities Overlap to a Great Extent
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Social 6-Org. 7-Pro.
Categories of Resilience


Work Highly Intertwined With Rest of Life
Raw Scores
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus
4-Flex. Th. 5-Flex. Social 6-Org. 7-Pro.
Categories of Resilience

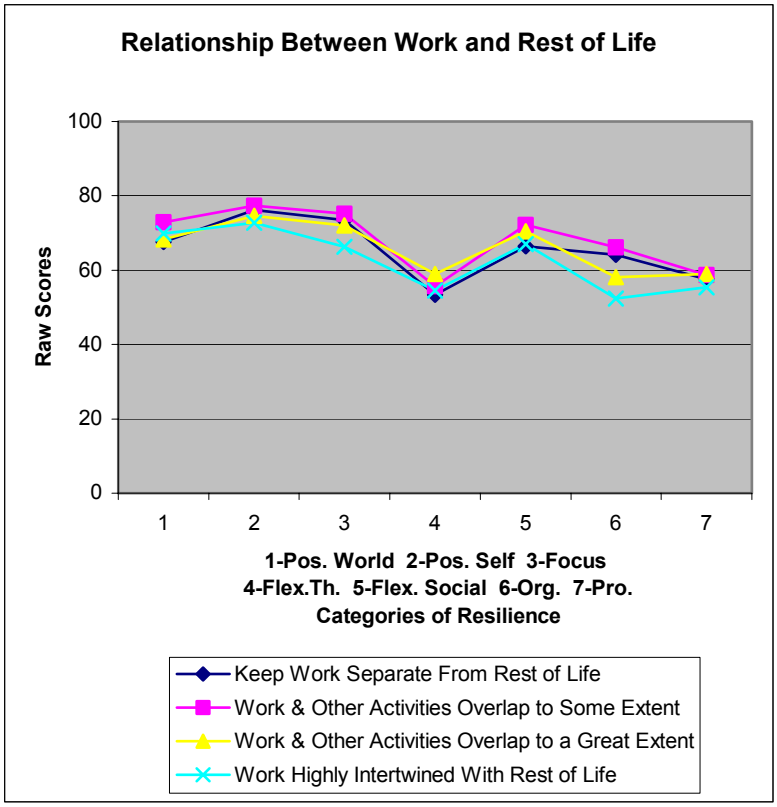


Figure 4.11. Overall pattern of resilient characteristics of each possible relationship between work and the rest of life and a comparison of the four levels.

Research Question 12: Is there a relationship between a teacher's self-rating of personal resilience and the measured level of resilience, according to these seven categories?

A one-way MANOVA was conducted to determine the effect of the difference of a teacher's personal self-rating of resilience with the measured level of resilience, on these seven different categories of resilience. Statistically significant differences were found among these four levels on these seven categories of resilience. The results of Wilkes' $\Lambda = .766$, $F(21, 669.6) = 3.095$, $p = .000$, indicate that rejection of the hypothesis that the population means on the dependent variables are the same for the three levels of

education completed by the teacher is viable. The multivariate $\eta^2 = .085$. Tables 4.15 and 4.16 contain the means and standard deviations on the seven categories for these four levels.

ANOVAs were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the 0.05 level. The ANOVA on the positive world category was significant, $F(3, 239) = 14.406$, $p = .000$, $\eta^2 = 0.153$. The ANOVA on the positive self category was significant, $F(3, 239) = 10.851$, $p = .000$, $\eta^2 = .120$. The ANOVA on the focus category was significant, $F(3, 239) = 9.218$, $p = .000$, $\eta^2 = .104$. The ANOVA on the flexible thoughts category was significant, $F(3, 239) = 5.109$, $p = .002$, $\eta^2 = .060$. The ANOVA on the flexible social category was significant, $F(3, 239) = 4.892$, $p = .003$, $\eta^2 = .058$. The ANOVA on category of organization was significant, $F(3, 239) = 3.554$, $p = .015$, $\eta^2 = .043$. The ANOVA on the proactive category was significant, $F(3, 239) = 6.162$, $p = .000$, $\eta^2 = 0.072$.

Post hoc analyses for the positive world, positive self, focus, flexible thoughts, flexible social, organization, and proactive categories were conducted to determine which of these four levels had the strongest impact on the resilience as described by these seven categories. Because there are seven categories, the Bonferroni adjustment as well as the initial significance level will be considered in the interpretation of this data. Each category was tested at the 0.05 divided by 3 or 0.007 level as well as the 0.05 level.

The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the positive world category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as somewhat higher than average, at the 0.05 significance level. The

group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the positive world category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as about average, at the 0.007 and the 0.05 significance levels. The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the positive world category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as somewhat lower than average, at the 0.007 and the 0.05 significance levels.

The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the positive self category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as about average, at the 0.007 and the 0.05 significance levels. The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the positive self category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as somewhat lower than average, at the 0.05 significance level. The group of teachers who in self-rating of general resilience ranked themselves as somewhat higher than average recorded significantly higher scores on the positive self category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as about average, at the 0.007 and the 0.05 significance levels.

The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the focus category in comparison with the group of teachers who ranked themselves as about average, at the

0.007 and the 0.05 significance levels. The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the focus category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as somewhat lower than average, at the 0.05 significance level. The group of teachers who in self-rating of general resilience ranked themselves as somewhat higher than average recorded significantly higher scores on the focus category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as about average, at the 0.007 and the 0.05 significance levels.

The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the flexible thoughts category in comparison with the group of teachers who ranked themselves as about average, at the 0.05 significance level. The group of teachers who in self-rating of general resilience ranked themselves as somewhat higher than average recorded significantly higher scores on the flexible thoughts category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as about average, at the 0.05 significance level.

The group of teachers who in self-rating of general resilience ranked themselves as somewhat higher than average recorded significantly higher scores on the flexible social category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as about average, at the 0.05 significance level.

The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the organization

category in comparison with the group of teachers who in self-rating of general resilience ranked themselves as somewhat lower than average, at the 0.05 significance level.

The group of teachers who in self-rating of general resilience ranked themselves as much higher than average recorded significantly higher scores on the proactive category in comparison with the group of teachers who ranked themselves as about average, at the 0.05 significance level.

Thus, the teachers' personal opinion about their own general resilience had an impact on their resilient characteristics in all of the seven categories.

Table 4.15

Definitions of Variables in Research Question 12

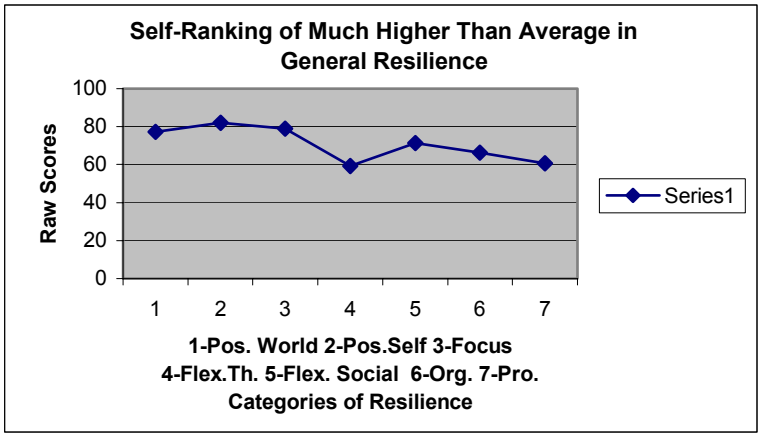
Variable	Definition
1	Teacher self-rating of general resilience of much higher than average.
2	Teacher self-rating of general resilience of somewhat higher than average.
3	Teacher self-rating of general resilience of about average.
4	Teacher self-rating of general resilience of somewhat lower than average.

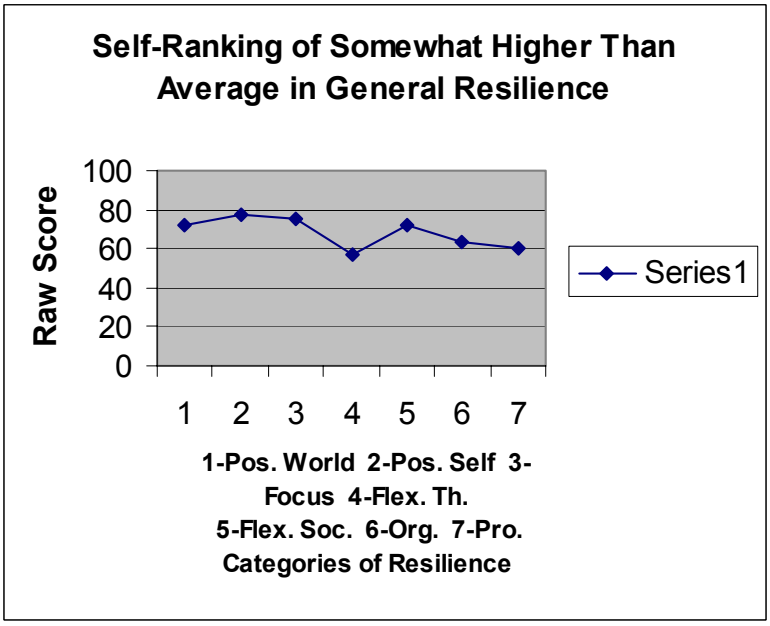
Table 4.16

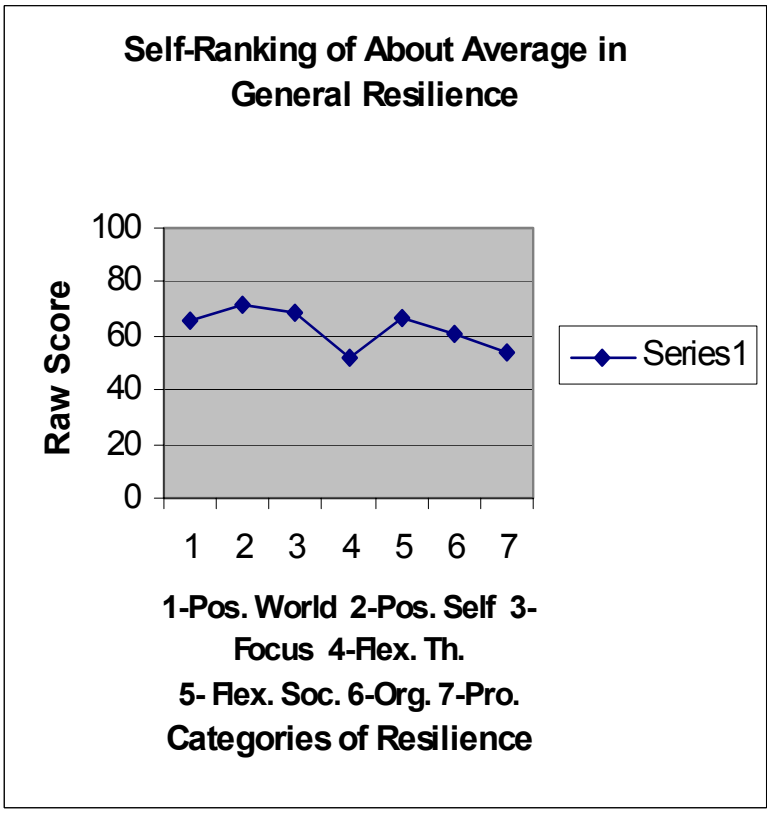
Means and Standard Deviations for the Four Groups within Each Dependent Variable for Post Hoc Analyses

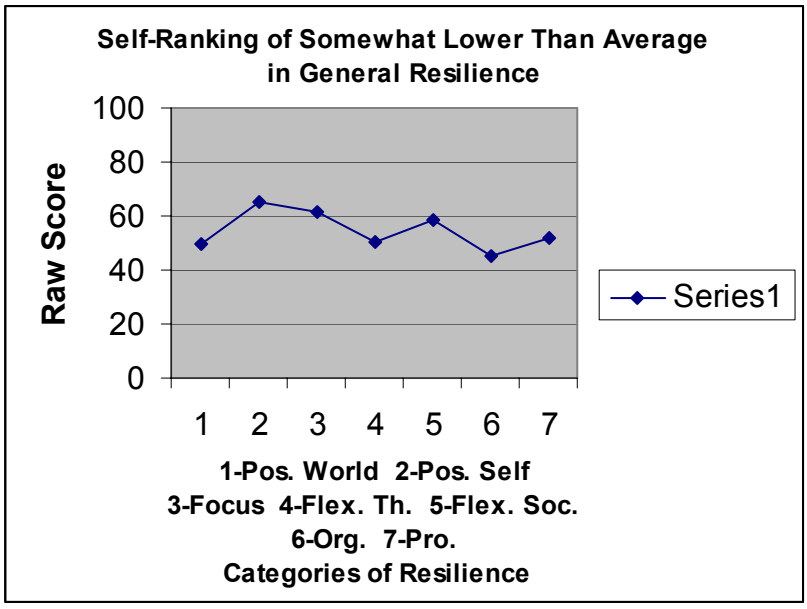
Resilience	1		2		3		4	
	M	SD	M	SD	M	SD	M	SD
Positive world	*77.24	11.38	71.62	10.96	65.93	11.63	50.00	9.38
Positive self	*81.95	9.77	77.33	9.88	71.64	12.16	65.00	13.22
Focus	*79.00	11.86	*74.92	10.54	68.80	13.21	61.50	20.02
Flexible thoughts	*59.19	10.76	*57.50	12.76	51.74	12.30	50.50	11.93
Flexible social	71.40	11.44	*72.07	11.38	67.00	11.06	58.50	7.19
Organize	*66.38	11.79	63.65	15.08	60.64	13.64	45.50	31.00
Proactive	*60.81	10.22	60.44	10.65	54.12	12.20	51.50	26.45

Figure 4.12 shows the overall pattern of the resilient characteristics of each self-ranking of personal general resilience and the comparison of the four levels.




Self-Ranking of Somewhat Higher Than Average in General Resilience
Raw Score
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th.
5-Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience


Self-Ranking of About Average in General Resilience
Raw Score
100
80
60
40
20
0
1 2 3 4 5 6 7
Series1
1-Pos. World 2-Pos. Self 3-Focus 4-Flex. Th.
5- Flex. Soc. 6-Org. 7-Pro.
Categories of Resilience



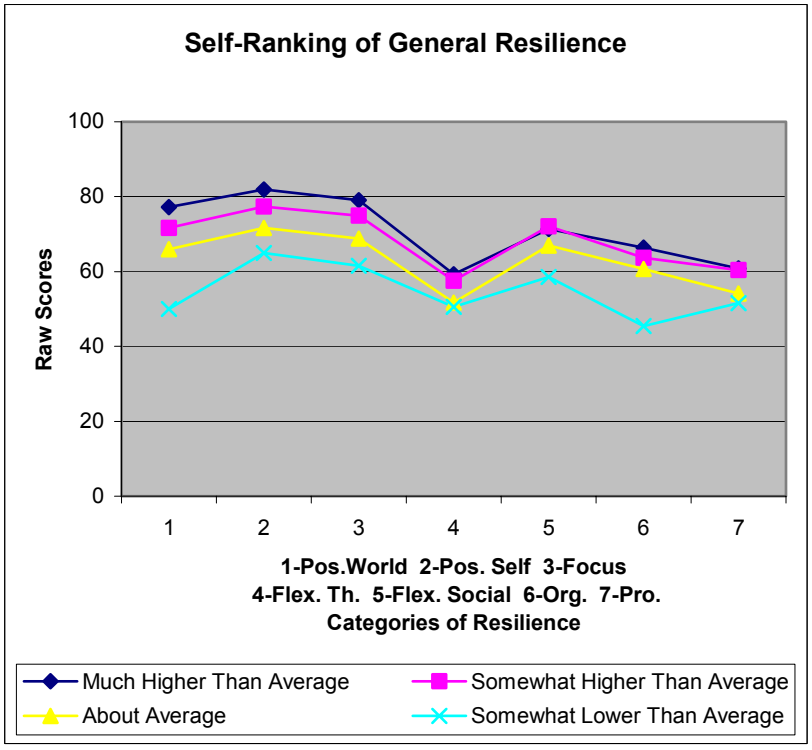


Figure 4.12. Overall pattern of resilient characteristics of each self-ranking of personal general resilience and a comparison of the four levels.

Findings by the Seven Categories of Resilience

The statistically significant findings for each category of resilience can be found in Appendix G. In the positive world category, the older group of teachers (> 30 years) showed a statistically significantly higher level of resilience than the middle age group of teachers (25 – 30). Teachers with children under the age of 18 living in their home showed a statistically significantly higher level of resilience in this category, than teachers without children under the age of 18 living in their home. Teachers who view themselves as extremely religious or spiritual showed a statistically significantly higher level of resilience in this level, than the group of teachers who view themselves as somewhat religious or spiritual. Those participants who described themselves as allowing their work and other activities to overlap to some extent showed a statistically significantly higher level of resilience in this category, than the group of teachers who described themselves as keeping their work mostly separate from the rest of their life. The teachers who ranked themselves as much higher than average in general resilience showed a statistically significantly higher level of resilience in the positive world category, than teachers who described themselves as somewhat higher than average, about average, or somewhat lower than average.

In the positive self category, teachers who exercised three or more times a week showed a statistically significantly higher level of resilience than the teachers who rarely exercised or those who exercised occasionally. Teachers who exercised weekly recorded statistically significantly higher levels of resilience than teachers who rarely exercised, in this category. Teachers with Ph.D. or equivalent degrees recorded statistically significantly higher levels of resilience than teachers with a bachelor's degree in the positive self category. Teachers who ranked themselves as much higher than average in

general resilience recorded statistically significantly higher levels of resilience than teachers who ranked themselves as about average, or somewhat lower than average in general resilience.

In the Focus category, teachers who have children under the age of 18 living in their home recorded statistically significantly higher levels of resilience than teachers who do not have children under the age of 18 living in their home. Also in this category, married teachers recorded statistically significantly higher levels of resilience than teachers who are single. Teachers who exercised weekly recorded statistically significantly higher levels of resilience in the focus category, than teachers who rarely exercise. Teachers who described themselves as extremely religious or spiritual recorded statistically significantly higher levels of resilience in this category, than teachers who described themselves as somewhat religious or spiritual. Teachers who ranked themselves as much higher than average in general resilience recorded a statistically significantly higher level of resilience in the focus category than teachers who ranked themselves as about average or somewhat below average. Teachers who ranked themselves as somewhat higher than average in general resilience recorded a statistically significantly higher level of resilience than the teachers who ranked themselves as about average in general resilience.

In the category of Flexible Thoughts, teachers who ranked themselves as much higher than average on general resilience recorded statistically significantly higher levels of resilience than teachers who ranked themselves as about average in general resilience. Teachers who ranked themselves as somewhat higher than average in general resilience

recorded statistically significantly higher levels of resilience than in the flexible thoughts category than, teachers who ranked themselves as about average in general resilience.

In the category of Flexible Social, female teachers recorded statistically significantly higher levels of resilience than male teachers. Teachers with children under the age of 18 living in their home recorded statistically significantly higher levels of resilience in this category, than teachers without children under the age of 18 living in their home. Teachers who exercised weekly recorded statistically significantly higher levels of resilience in the category of flexible social, than teachers who rarely exercised. Teachers who described themselves as extremely religious or spiritual recorded statistically significantly higher levels of resilience in regard to the flexible social category, than teachers who described themselves as somewhat religious or spiritual. Teachers who allow their work and other activities to overlap to some extent recorded statistically significantly higher levels of resilience in this category, than teachers who keep their work mostly separate from the rest of their life. Teachers who ranked themselves as somewhat higher than average in general resilience recorded statistically significantly higher levels of resilience in this category, than the teachers who ranked themselves as about average in general resilience.

In the category of organization, the younger teachers (age 20-25) recorded statistically significantly higher levels of resilience than the middle age (age 26-30) teachers. Female teachers recorded statistically significantly higher levels of resilience than male teachers in this category. Married teachers recorded statistically significantly higher levels of resilience than the single teachers in this category. Teachers who are certified and teaching in the same field as their degree recorded statistically significantly

higher levels of resilience in organization, than teachers who are not certified but are educated in their current teaching field. Elementary (K-5th grade) teachers recorded statistically significantly higher levels of resilience with regard to organization, than High School (9th – 12th grade) teachers. Teachers who are able to keep work mostly separate from the rest of their life recorded statistically significantly higher levels of resilience in this category, than teachers whose work is highly intertwined with the rest of their life. Teachers who ranked themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience with regard to organization, than teachers who ranked themselves as somewhat lower than average in general resilience. In the Proactive category, High School (9th –12th grades) teachers recorded statistically significantly higher levels of resilience than Elementary (K – 5th grades) teachers. Teachers who ranked themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience in this category, than teachers who ranked themselves as somewhat lower than average in general resilience.

Findings Organized by Each Independent Variable

The statistically significant findings for each independent variable can be found in Appendix H. The younger (age 20 – 25) teachers recorded statistically significantly higher levels of resilience in the organization category, than the middle age (26 – 30 years) teachers.

The middle age (26 – 30 years) teachers recorded no statistically significantly higher levels of resilience than the other age classifications in any of the seven categories of resilient characteristics represented this study.

The older (> 30 years) teachers recorded statistically significantly higher levels of resilience in the positive world category, than the middle age (26 –30 years) teachers.

The female teachers recorded statistically higher levels of resilience in the flexible social category and organization categories, than the male teachers.

The male teachers recorded no statistically significantly higher levels of resilience than the female teachers in any of the seven categories of resilient characteristics represented in this study.

The teachers with children under the age of 18 living in their home recorded statistically significantly higher levels of resilience in the positive world, focus, and flexible social categories, than the teacher who did not have children under the age of 18 living in their home.

The teachers with no children under the age of 18 living in their home recorded no statistically significantly higher levels of resilience than the teachers with children under the age of 18 living in their home in any of the seven categories of resilient characteristics represented in this study.

The group of teachers who listed their marital status as single recorded no statistically significantly higher levels of resilience than any of the other marital status classifications in any of the seven categories of resilience represented in this study.

The married teachers recorded statistically significantly higher levels of resilience in the focus and organization categories, than the single teachers.

The group of teachers who listed their marital status as divorced recorded no statistically significantly higher levels of resilience than any of the other marital status classifications in any of the seven categories of resilience represented in this study.

The group of teachers who listed their marital status as other recorded no statistically significantly higher levels of resilience than any of the other marital status classifications in any of the seven categories of resilience represented in this study.

The teachers who exercised three or more times a week recorded statistically significantly higher level of resilience in the positive self category than, the teachers who exercised rarely or occasionally.

The teachers who exercised weekly recorded statistically significantly higher levels of resilience in the positive self, focus, and flexible social categories, than the teachers who rarely exercised.

The teachers who exercised twice a week recorded statistically significantly higher levels of resilience in the organization category, than the teachers who rarely exercise.

The teachers who exercised rarely or occasionally recorded no statistically significantly higher levels of resilience than the other exercise frequency classifications in any of the seven categories of resilient characteristics represented this study.

The teachers who have completed a Ph.D. or equivalent degree recorded statistically significantly higher levels of resilience in the positive self category, than the teachers who have completed a bachelor's degree.

The teachers who have completed a master's or bachelor's degree recorded no statistically significantly higher levels of resilience than the other levels of completed education classifications in any of the seven categories of resilient characteristics represented this study.

The teachers who are certified and teaching in the same field as their degree recorded statistically significantly higher levels of resilience in the organization category, than the teachers who are not certified but educated in their current teaching field.

The teachers who are certified and teaching in a different field than their degree recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The teachers who hold a temporary certificate and are teaching in the same field as their degree recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The teachers who hold a temporary certificate and are teaching in a different field than their degree recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The teachers who are not certified but educated and teaching in the same field as their degree recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The teachers who are not certified or educated in their current teaching field recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The years of experience variables -- one year, two years, or three years – recorded no statistically significant differences between these three variables in any of the seven categories of resilient characteristics represented in this study.

The Elementary (K – 5th grade) teachers recorded statistically significantly higher levels of resilience in the organization category, than the High School (9th – 12th grades) teachers.

The High School (9th –12th grade) teachers recorded statistically significantly higher levels of resilience in the proactive category, than the Elementary (K- 5th grade) teachers.

The Junior High (6th – 8th grades) recorded no statistically significant higher levels of resilience than the other school levels in any of the seven categories of resilient characteristics represented in this study.

The teachers who described themselves as extremely religious or spiritual recorded statistically significantly higher levels of resilience in the positive world, focus, and flexible social categories, than the teachers who described themselves as somewhat religious or spiritual.

The teachers who described themselves as highly, moderately, somewhat, or not at all religious or spiritual recorded no statistically significantly higher levels of resilience than the other levels of religious or spiritual affiliation in any of the seven categories of resilient characteristics represented in this study.

The teachers who described themselves as allowing their work and other activities to overlap to some extent recorded statistically significantly higher levels of resilience in

the positive world and flexible social categories, than the teachers who described themselves as able to keep their work mostly separate from the rest of their life.

The teachers who described themselves as able to keep work mostly separate from the rest of their life recorded statistically significantly higher levels of resilience in the organization category, than the teachers who described their work as highly intertwined with the rest of their life.

The teachers who described themselves as allowing work and other activities to overlap to some extent recorded statistically significantly higher levels of resilience in the organization category, than the teachers who described themselves as allowing work and other activities to overlap to a great extent and the teachers who described themselves as allowing work and life to be highly intertwined.

The teachers who described themselves as allowing work and other activities to overlap to a great extent recorded no statistically significantly higher levels of resilience than the other levels of relationship between work and life in any of the seven categories of resilient characteristics represented in this study.

The teachers who described their work as highly intertwined with the rest of their life recorded no statistically significantly higher levels of resilience than the other levels of relationship between work and life in any of the seven categories of resilient characteristics represented in this study.

The teachers who rated themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience in the positive world category than, the teachers who rated themselves as somewhat higher than average, about average, and somewhat lower than average in general resilience. The teachers who

rated themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience in the positive self and focus categories, than the teachers who rated themselves about average and somewhat lower than average in general resilience. The teachers who rated themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience in the flexible thoughts and proactive categories, than the teachers who rated themselves as about average in general resilience. The teachers who rated themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience in the organization category, than the teachers who rated themselves as somewhat lower than average in general resilience.

The teachers who rated themselves as somewhat higher than average in general resilience recorded statistically significantly higher levels of resilience in the focus and flexible social categories, than the teachers who rated themselves as about average in general resilience.

The teachers who rated themselves as about average or somewhat lower than average in general resilience recorded no statistically significantly higher levels of resilience than the other possibilities for self-rating of general resilience in any of the seven categories of resilience represented in this study.

Findings Organized by Strengths

The scores for each of the seven categories of the Personal Resilience Questionnaire were presented in the form of raw scores, ranging from 0 to 100. The score on each characteristic indicates the degree to which the participant's answers reflect that characteristic. High scores indicate areas of strength while low scores indicate areas of

weakness. In Appendix I a table showing the three highest scores in each level of the independent variables in this study can be found.

In the forty-four different levels of the independent variables of this study 95% of the levels scored the highest in the Positive Self category. The only two exceptions were: the teachers who were not certified or educated in their current teaching field, and the teachers who described themselves as not at all religious or spiritual. The strongest category for the teachers who were not certified or educated in their current teaching field was the Positive World category. The strongest category for the teachers who described themselves as not at all religious or spiritual was the Focus category.

The Focus category captured the second highest score for 93% of the levels of the independent variables. The only three exceptions were: teachers who recorded their marital status as other, teachers who described themselves as not at all religious or spiritual, and teachers who allow their work to highly intertwine with the rest of life. The second strongest category for the teachers who recorded their marital status as other was the Flexible Social category. The second strongest category for the teachers who described themselves as not at all religious or spiritual was the Positive Self category. The second strongest category for the teachers who allow their work to highly intertwine with the rest of life was the Positive World category.

The third strongest category was shared between Flexible Social, Positive World, and Positive Self. Flexible Social captured 48% of the different levels of the independent variables. The Positive World Category led the third strongest scores with 50% of the different levels of the independent variables. The group of teachers who were not

certified or educated in their current teaching field had their third highest score in the Positive Self category to represent the last 2% of this group.

Findings Organized by Weaknesses

The categories with the weakest scores were Flexible Thoughts and Proactive. The lowest score, which represents the greatest weakness, was dominated by the Flexible Thoughts category with 91% of the independent variables. The Organization category had 7%, while the Proactive category captured 2% of the lowest scores. Leading the categories for the second lowest scores was the Proactive category with 77% of the independent variables. Followed by the Organization category with 14%, the Flexible Thoughts category with 7%, and the Positive World category with 2% of the independent variables. The table in Appendix J shows the two weakest scores for each independent variable.

Summary

Chapter IV presented the results for this study. These results included a summary of design of the study, findings related to the research questions, findings by the seven categories of resilience findings by each independent variable; and a summary of the strengths and weaknesses of each independent variable.

Statistical significance was found within each category of resilience represented by the Personal Resilience Questionnaire. The years of classroom experience represented the only independent variable in which there were no statistically significant findings.

The majority of the highest scores (strengths) reported fell into the Positive Self, Focus, and Flexible Social categories. The majority of the lowest scores (weaknesses) fell into the Proactive and Flexible Thoughts categories.

It is clear from the findings of this study that the resilient characteristics of teachers are present and demonstrate certain patterns that could be relevant for the education of future teachers, staff development of current teachers, and the creation and sustaining of environments that strengthen the resilience within our schools.

CHAPTER 5

CONCLUSIONS, IMPLICATONS, AND DISCUSSIONS

This chapter begins with a brief overview of the study. A summary of the findings, conclusions, and implications for research, theory, and suggestions for future research subsequently follows.

Summary of Study

The purposes of this study were to collect detailed factual data to measure the resilient characteristics of teachers with three or fewer years of teaching experience, and to reach a deeper understanding of the concept of resilient adults and how it applies to adults who choose to teach with three or fewer years of teaching experience. A set of twelve research questions was used to guide the data collection and analyses for this study. These questions compared the characteristics of resilient adults found in teachers with three or fewer years of experience with specific regard to their experience in the classroom, marital status, presence of children under the age of 18 in their home, age, gender, school level, level of education, exercise frequency, the match between their degree and their teaching assignment and their certification, degree of religious and/or spiritual affiliation, the degree to which a teacher's work and life intertwine, and the teacher's own ranking of their general resilience.

Each independent variable was scored according to the seven categories of resilience researched and created by Connor (1992). These categories are described as:

1. Positive: Display a sense of security and self-assurance that is based on their view of life as complex but filled with opportunity (ODR, 1994, p. 2). This category is divided into two parts: World – focuses on the degree to which one views the world as an exciting place filled with opportunities (ODR, 1994, p. 13), and Self – focuses on the degree to which one views themselves capable of meeting challenges and opportunities (ODR, 1994, p. 14).
2. Focused: Have a clear vision of what they want to achieve (ODR, 1994, p. 2).
3. Flexible: Demonstrate a special pliability when responding to change (ODR, 1994, p. 2). This category is divided into two parts: Thoughts – focuses on the degree to which an individual is comfortable with ambiguity and presents a willingness to entertain multiple perspectives (ODR, 1994, p. 15), and Social – focuses on the degree to which one draws on others in addressing the challenges of change (ODR, 1994, p. 16).
4. Organized: Develop certain structured approaches to managing change (ODR, 1994, p. 2).
5. Proactive: Engage change rather than defending against it (ODR, 1994, p. 2).

The conceptual framework for this study was based upon the assumption that people have resilient characteristics that have an impact on their ability to successfully function amidst the day to day challenges and stressors that come their way (Benard, 1991; Block, 1993; Demos, 1989; Linquanti, 1992; Masten, Best & Garmezy, 1990; Richardson et al., 1990; Rirkin & Hoopman, 1991; Rutter, 1990; Sagor, 1996; Werner, 1984; Werner & Smith, 1992; Wolin & Wolin, 1993). The presence and strength of resilient characteristics can make a significant impact on many aspects of life (Benard,

1993; Blechman & Culhane, 1993; Block, 1993; Sagor, 1996; Warshaw & Barlow, 1995; Werner, 1984). Working within the research, it is clear that resilient characteristics in adults can be strengthened if certain protective factors are present (Benard, 1991; Henderson & Milstein, 1996; Krovetz, 1999; Montano, 1998; Rutter, 1988; Werner, 1990).

Conclusions

The younger (age 20 – 25) teachers recorded statistically significantly higher levels of resilience in the organization category, than the middle age (26 – 30 years) teachers.

The middle age (26 – 30 years) teachers recorded no statistically significantly higher levels of resilience than the other age classifications in any of the seven categories of resilient characteristics represented this study.

The older (> 30 years) teachers recorded statistically significantly higher levels of resilience in the positive world category, than the middle age (26 –30 years) teachers.

The female teachers recorded statistically higher levels of resilience in the flexible social category and organization categories, than the male teachers.

The male teachers recorded no statistically significantly higher levels of resilience than the female teachers in any of the seven categories of resilient characteristics represented in this study.

The teachers with children under the age of 18 living in their home recorded statistically significantly higher levels of resilience in the positive world, focus, and flexible social categories, than the teacher who did not have children under the age of 18 living in their home.

The teachers with no children under the age of 18 living in their home recorded no statistically significantly higher levels of resilience than the teachers with children under the age of 18 living in their home in any of the seven categories of resilient characteristics represented in this study.

The group of teachers who listed their marital status as single recorded no statistically significantly higher levels of resilience than any of the other marital status classifications in any of the seven categories of resilience represented in this study.

The married teachers recorded statistically significantly higher levels of resilience in the focus and organization categories, than the single teachers.

The group of teachers who listed their marital status as divorced recorded no statistically significantly higher levels of resilience than any of the other marital status classifications in any of the seven categories of resilience represented in this study.

The group of teachers who listed their marital status as other recorded no statistically significantly higher levels of resilience than any of the other marital status classifications in any of the seven categories of resilience represented in this study.

The teachers who exercised three or more times a week recorded statistically significantly higher level of resilience in the positive self category than, the teachers who exercised rarely or occasionally.

The teachers who exercised weekly recorded statistically significantly higher levels of resilience in the positive self, focus, and flexible social categories, than the teachers who rarely exercised.

The teachers who exercised twice a week recorded statistically significantly higher levels of resilience in the organization category, than the teachers who rarely exercise.

The teachers who exercised rarely or occasionally recorded no statistically significantly higher levels of resilience than the other exercise frequency classifications in any of the seven categories of resilient characteristics represented this study.

The teachers who have completed a Ph.D. or equivalent degree recorded statistically significantly higher levels of resilience in the positive self category, than the teachers who have completed a bachelor's degree.

The teachers who have completed a master's or bachelor's degree recorded no statistically significantly higher levels of resilience than the other levels of completed education classifications in any of the seven categories of resilient characteristics represented this study.

The teachers who are certified and teaching in the same field as their degree recorded statistically significantly higher levels of resilience in the organization category, than the teachers who are not certified but educated in their current teaching field.

The teachers who are certified and teaching in a different field than their degree recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The teachers who hold a temporary certificate and are teaching in the same field as their degree recorded no statistically significantly higher levels of resilience than the

other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The teachers who hold a temporary certificate and are teaching in a different field than their degree recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The teachers who are not certified but educated and teaching in the same field as their degree recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The teachers who are not certified or educated in their current teaching field recorded no statistically significantly higher levels of resilience than the other classifications of teaching assignment in any of the seven categories of resilient characteristics represented in this study.

The years of experience variables -- one year, two years, or three years – recorded no statistically significant differences between these three variables in any of the seven categories of resilient characteristics represented in this study.

The Elementary (K – 5th grade) teachers recorded statistically significantly higher levels of resilience in the organization category, than the High School (9th – 12th grades) teachers.

The High School (9th –12th grade) teachers recorded statistically significantly higher levels of resilience in the proactive category, than the Elementary (K- 5th grade) teachers.

The Junior High (6^{th} – 8^{th} grades) recorded no statistically significant higher levels of resilience than the other school levels in any of the seven categories of resilient characteristics represented in this study.

The teachers who described themselves as extremely religious or spiritual recorded statistically significantly higher levels of resilience in the positive world, focus, and flexible social categories, than the teachers who described themselves as somewhat religious or spiritual.

The teachers who described themselves as highly, moderately, somewhat, or not at all religious or spiritual recorded no statistically significantly higher levels of resilience than the other levels of religious or spiritual affiliation in any of the seven categories of resilient characteristics represented in this study.

The teachers who described themselves as allowing their work and other activities to overlap to some extent recorded statistically significantly higher levels of resilience in the positive world and flexible social categories, than the teachers who described themselves as able to keep their work mostly separate from the rest of their life.

The teachers who described themselves as able to keep work mostly separate from the rest of their life recorded statistically significantly higher levels of resilience in the organization category, than the teachers who described their work as highly intertwined with the rest of their life.

The teachers who described themselves as allowing work and other activities to overlap to some extent recorded statistically significantly higher levels of resilience in the organization category, than the teachers who described themselves as allowing work and

other activities to overlap to a great extent and the teachers who described themselves as allowing work and life to be highly intertwined.

The teachers who described themselves as allowing work and other activities to overlap to a great extent recorded no statistically significantly higher levels of resilience than the other levels of relationship between work and life in any of the seven categories of resilient characteristics represented in this study.

The teachers who described their work as highly intertwined with the rest of their life recorded no statistically significantly higher levels of resilience than the other levels of relationship between work and life in any of the seven categories of resilient characteristics represented in this study.

The teachers who rated themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience in the positive world category than, the teachers who rated themselves as somewhat higher than average, about average, and somewhat lower than average in general resilience. The teachers who rated themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience in the positive self and focus categories, than the teachers who rated themselves about average and somewhat lower than average in general resilience. The teachers who rated themselves as much higher than average in general resilience recorded statistically significantly higher levels of resilience in the flexible thoughts and proactive categories, than the teachers who rated themselves as about average in general resilience. The teachers who rated themselves as much higher than average in general resilience recorded statistically significantly higher levels of

resilience in the organization category, than the teachers who rated themselves as somewhat lower than average in general resilience.

The teachers who rated themselves as somewhat higher than average in general resilience recorded statistically significantly higher levels of resilience in the focus and flexible social categories, than the teachers who rated themselves as about average in general resilience.

The teachers who rated themselves as about average or somewhat lower than average in general resilience recorded no statistically significantly higher levels of resilience than the other possibilities for self-rating of general resilience in any of the seven categories of resilience represented in this study.

Theoretical Implications and Discussion

In terms of resiliency theory this study contributes the following conclusions to this body of knowledge with the following information:

1. *The ability and willingness to look at situations from multiple points of view, postponing judgment while considering various perspectives, accepting and living with paradoxes and contradictions as a part of life represented the weakest characteristic of resilience for these teachers.*

2. *These teachers' scores reflect a propensity to avoid unfamiliar challenges. When faced with unavoidable challenges these scores reflect a choice of an approach that is familiar and comfortable to them.*

3. *These teachers consistently showed a strong belief in their ability to influence their own environment in spite of their hesitance to take risks.*

4.These teachers demonstrated a sense of purpose and focus in life, which increases their ability to manage confusing situations.

A discussion connecting each of these four new pieces of knowledge to the research on resiliency is included in the next few paragraphs.

The ability and willingness to look at situations from multiple points of view, postponing judgment while considering various perspectives, accepting and living with paradoxes and contradictions as a part of life represented the weakest characteristic of resilience for these teachers.

The teachers' scores indicate a weakness in the Flexible Thoughts category while the Flexible Social category was one of the strongest aspects of resilience for most of them. The Flexible Thoughts category represents the person's ability and willingness to look at situations from multiple points of view, to suspend judgment while considering alternative perspectives, and to accept and live with paradoxes and contradictions as part of life (ODR, 1994). The Flexible Social category represents the ability to form and maintain close relationships, the willingness to engage in the give and take of mutually supportive friendships, and the ability to recognize ways in which other people's skills can complement their own (ODR, 1994). The gap between the scores in the Flexible Thoughts and Flexible Social Categories was significant for most of the participants in this study. ODR (1994) found in their research that the presence of a gap between these two categories indicate a higher level of dependence upon others to help them through difficult times. As the gap between these two categories widens, people tend to simply follow their leaders and do as they are told (ODR, 1994, p. 38). Figure 5.1 shows a partial

(50 participants) picture of the gap between the Flexible Thoughts and Flexible Social scores of these participants.

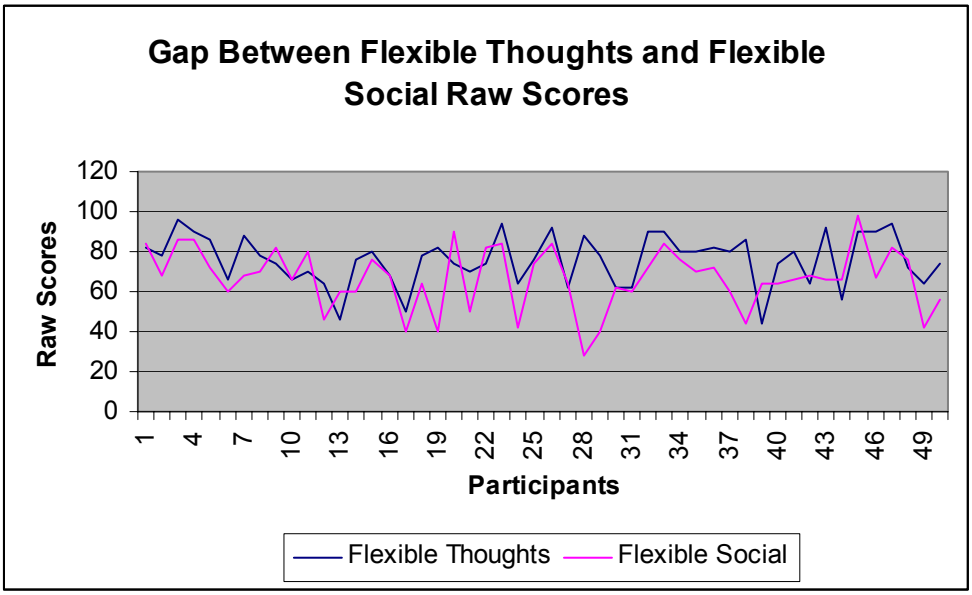


Figure 5.1. The gap between flexible thoughts and flexible social raw scores of participants.

What teachers feel, believe, and do has an impact on what and how they teach the children sitting in their classrooms everyday. We do not want our children to be immersed in situations on a daily basis where the 'leader' is increasingly dependent on others for direction and guidance. Munson (1991) described the impact of the learning environment for students in this manner. "The front of the classroom is a powerful place to be. The responsibility is awesome. You cannot teach and empower children to be successful if you do not hold yourself to be so. Everything you are and all that you believe is transmitted to your students at some level" (p. 5).

The protective factors that can foster resiliency in the Flexible Thoughts category include: building collegiality, providing intellectual stimulation, giving them a voice that will be heard and answered, supporting high expectations, opportunities for meaningful participation, reduction of the negative chain of reaction following exposure to risk, expecting responsible professional behavior, and ample opportunity to contribute meaningfully to one's environment (Benard, 1991; Henderson & Milstein, 1996; Krovetz, 1999; Montano, 1998; Rutter, 1988; Werner, 1990).

It is also possible to block the growth of resilient characteristics. Henderson and Milstein (1996) indicated that the traits of resilience could also be blocked. Some of the patterns that can block resiliency in the category of Flexible Thoughts are: deficit thinking about professional development activities, including supervision and evaluation of teachers, isolation, poor role modeling by leaders, narrow role definitions, emphasis on order and discipline, lack of supportive feedback systems, extrinsic rewards based on degree and/or time-in-service, and assumptions based on gender, ethnicity, and other factors (p. 65).

Schools need to provide the time and resources for teachers to increase their resilience in the Flexible Thoughts category.

These teachers' scores reflect a propensity to avoid unfamiliar challenges. When faced with unavoidable challenges these scores reflect a choice of an approach that is familiar and comfortable to them.

The Proactive category represented the second lowest average scores for the majority of the teachers in this study. Figure 5.2 shows the raw scores in the Proactive Category.

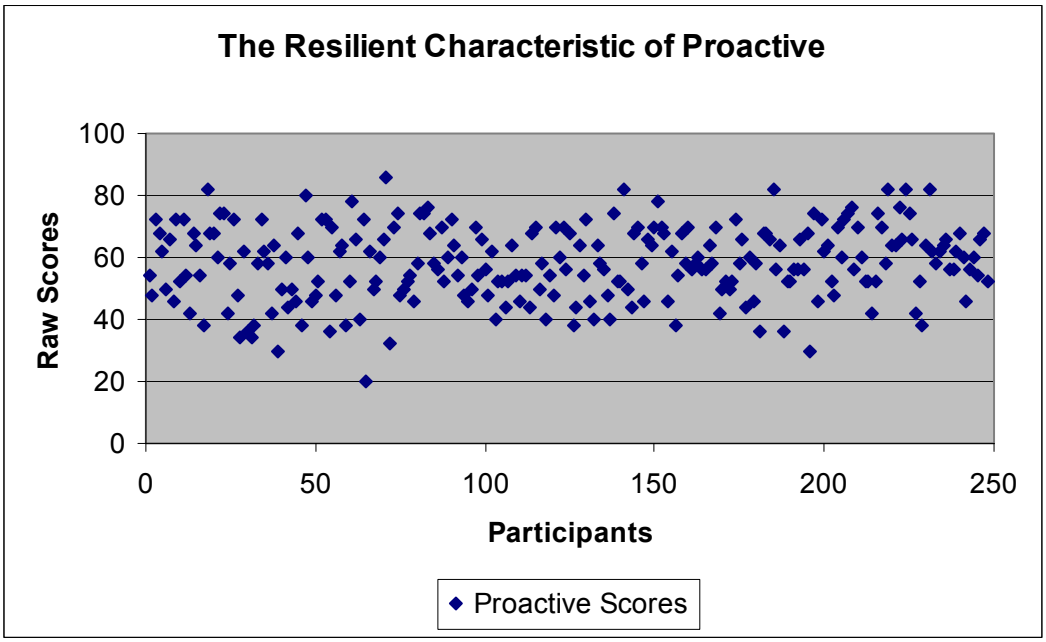


Figure 5.2. Raw scores in the proactive category of resilience.

ODR (1994) describes this category as a reflection of a person's willingness to try new behaviors and take risks in unfamiliar situations (p. 18). Teachers who are unwilling or incapable of trying new things or taking risks in unfamiliar situations are out of place as the creator and implementer of learning environments for all students. Gerstner (1999) stated, "If we don't have great teachers, we won't have great students. It's that simple" (p. 5). Sparks (1999) describes teaching as a challenging intellectual activity that requires deep knowledge of academic disciplines, the ability to design interesting and challenging lessons for a wide variety of students, and the capacity to understand and appropriately apply educational research. How can a teacher who is unwilling to try new behaviors or take risks be the director of the challenging lessons and application of educational research necessary in providing a rich learning environment for all students?

The research on resilience shows that each person's resilience can be strengthened in the appropriate environment (Krovetz, 1999; Konrad & Bronson, 1997). "Resilience is an evolving life-long activity under a constant state of flux; therefore, resilience refers to the individual's ability to adjust and adapt to the changes, demands, and disappointments that come up in the course of life" (Joseph, 1994, p. xi). The factors within an environment that could have a positive impact on strengthening this resilient characteristic include: building collegiality, providing intellectual stimulation, giving teachers a voice that will be heard and answered, supporting high expectations, providing opportunities for meaningful participation, reduction of the negative chain of reaction following exposure to risk, expecting professional behavior, and ample opportunity to contribute meaningfully to one's environment (Benard, 1991; Henderson & Milstein, 1996; Krovetz, 1999; Montano, 1998; Rutter, 1988; Werner, 1990).

To be proactive, teachers must believe that the possible positive outcomes that could result from taking a risk is worth the discomfort that comes along with the process. Creating an environment where teachers are treated as professionals capable of and expected to create and implement various learning environments for all students is the first step toward increasing the proactive aspect of resilience for all teachers.

These teachers consistently showed a strong belief in their ability to influence their own environment in spite of their hesitance to take risks.

Scores were consistently the strongest in the category of Positive Self. Figure 5.3 below shows the raw scores of each participant in the Positive Self Category. The pattern of these scores is consistent, with no obvious peaks or valleys.

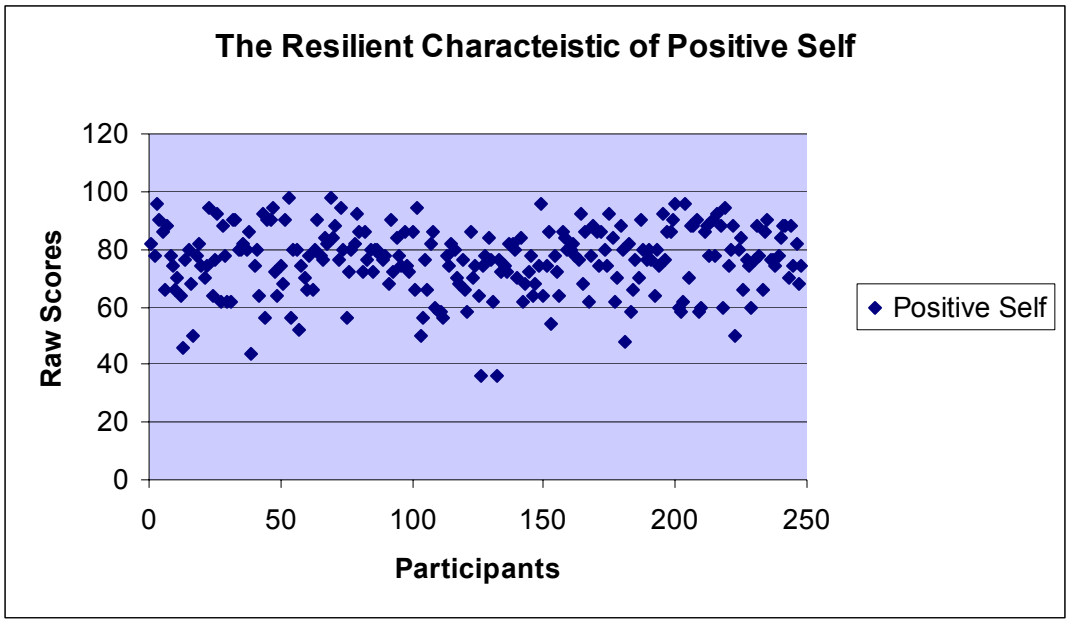


Figure 5.3. Raw scores in the positive self category of resilience.

Conner (1992) found a sense of security and self-assurance displayed by resilient people in the area of Positive Self (p. 238). The presence of a belief in one's ability to make a difference or impact on their environment implies that even though some scores showed weaknesses in important areas of resilience there are strengths that can be drawn upon to compensate for the other weaker areas. ODR (1994) describes the highest scores as "the skills you tend to rely on; they are probably fundamental to your view of the world and your approach to life" (p. 7).

Having a positive view of yourself has an impact on the way you view your future, changes in your life, and your approach to challenges. Connor (1992) described some aspects of strength in these areas as: the expectation of the future to be filled with constantly changing variables, sees disruptions as part of life, believes in the inherent growth which results from challenges, and generally sees life as rewarding (p. 241).

The findings of this study suggest that teachers operate from a belief that they are capable, valuable contributors to our world even though they tend to follow rather than lead in challenging or unfamiliar situations and are usually are not embracers of change. While schools create environments where resilient characteristics of proactiveness and flexible thoughts are fostered, the teacher's belief of their own value and ability to impact their world should be recognized and utilized in the process for strengthening these weaker characteristics.

These teachers demonstrated a sense of purpose and focus in life, which increases their ability to manage confusing situations.

The second highest category of these resilient characteristics was the category of Focus for 93% of the participants. Figure 5.4 shows the raw scores in the Focus category for all

of the participants.

Connor (1992) described being focused as "maintaining a strong vision that serves both as a source of meaning and as a guidance system" (p. 242). This strength includes the ability to distinguish between critical and trivial objectives. This strong vision coupled with a strong belief in the value of what takes place in the classroom creates a strong foundation for dealing with all the necessary disruptions that are part of the world of education.

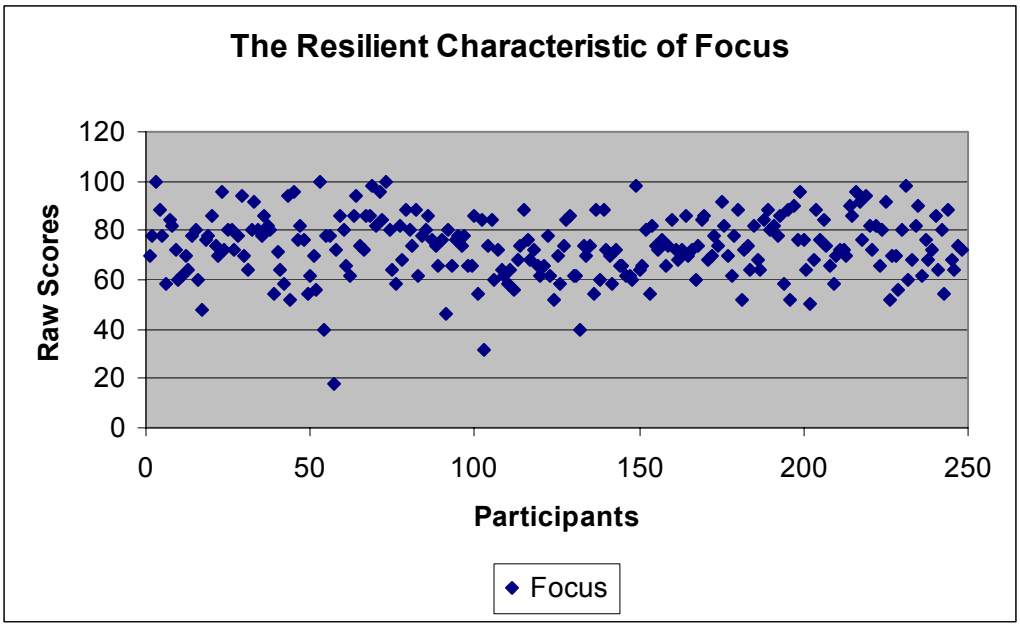


Figure 5.4. Raw scores in the focus category of resilience.

The focus scores were high in all three age classifications but there was an increase in the raw score as the teacher aged. The mean score for the younger (20 – 25 years) teachers (n = 119) was 72.61 with a standard deviation of 13.45 while the mean score for the middle age (26 – 30 years) group (n = 55) was 73.85 with a standard deviation of 13.74 and the mean score for the older (> 30 years) group (n = 69) was 74.26 with a standard deviation of 10.67. The "reality shock" of the first few years of teaching could be part of the reason for the increase in the ability to define and clearly understand their goals and objectives (Ayers, 1980; Gold, 1996; Steffy et al., 1999; Veenman, 1984). Henderson and Milstein (1996) found that the most powerful protective factor was a relationship with a caring, supportive adult. Therefore, the pairing of younger teachers with older teachers in a caring, supportive environment could enable them to help reinforce and clarify their goals and objectives.

Using the strength of teachers ability to maintain a strong vision can empower schools to allow the passion and fervor with which teachers believe and have the ability to appropriately prioritize their tasks within this vision to direct many thoughtful, meaningful discussions regarding the necessary, important educational decisions for our students.

Practical Implications

1. *The middle age group of teachers demonstrated a lack of ability to find order amidst chaos and the ability to move beyond thought toward action.*

   Therefore, the assignment of extra-curricular activities could go to the younger teachers allowing the middle age group to focus on their classroom responsibilities as well as their family responsibilities.

2. *Male teachers demonstrated a lack of ability to recognize their interdependence with colleagues, family, and friends.*

   Therefore, some staff development time could be spent in teaching group development skills. Working within committees where the importance of knowing personal strengths and weaknesses making it essential to utilize the strengths of others to compensate for personal weaknesses would be appropriate.

3. *As the age of the teachers increased so did their ability to view the world as a positive place providing them with a plethora of opportunities. Married teachers showed a strong sense of goals and priorities, while single teachers showed a struggle to define their goals and priorities. Teachers with children under the age of 18 tended to view the world more positively, maintain a clearer vision, and recognize their interdependence on others more effectively than teachers without children under*

the age of 18 living in their home. Married teachers showed a strong sense of goals and priorities, while single teachers showed a struggle to define their goals and priorities.

Therefore, the inclusion of programs such as mentoring, induction, and peer coaching could provide the opportunity for the pairing of teachers so that the strengths of each teacher can be utilized to enhance the weaknesses of each teacher.

4. *Taking care of the physical needs increased the teacher's ability to see themselves as valuable, capable people who can form and maintain close relationships, while finding order in their chaotic life.*

Therefore, the exercise equipment at the school should be made available to all teachers at no cost and teachers should be encouraged to use it. Each teacher's physical well-being should be important to the administration.

5. *Continuing to expand their own personal education allowed teachers to believe in themselves, therefore providing them with a strong foundation in which to face the constant changes inherent in the world of education.*

Therefore, schools should provide opportunities for teachers to further their education. Motivation for teachers to continue higher education should be creatively provided by the administration in every school.

6. *Teachers who were teaching in the higher grades (9^{th} – 12^{th} grades) demonstrated an ability to act decisively in the midst of uncertainty rather than simply reacting to circumstances.*

Elementary School teachers showed less ability to work within uncomfortable or unknown situations when compared to High School teachers. Therefore, Elementary

Schools should recognize their reluctance to take chances and try to incorporate different ways of providing encouragement and support for the teachers willing to take risks.

Suggestions for Further Research

Since this study was confined to the population of National Christian School Association, which includes Church of Christ Schools across America, future research might do well to measure and compare the resilient characteristics of teachers across various types of schools in order to further understand the implications of resilience of teachers in public, private, religious, and other types of schools.

Since resiliency is a situationally-specific construct (Egeland et al.1993; Joseph, 1994; Krovetz, 1999; Konrad & Bronson, 1997; ODR, 1994) future research could be to compare the resilient characteristics of teachers across various teaching assignments and student populations in order to further understand the various implications of the resilience of teachers.

Since the instrument (PRQ) used measured the resilient characteristics of adults who choose to teach future research could be to create an instrument that measured the resilient characteristics of teachers to more readily define and utilize the aspects of teaching into the appropriate protective factors for strengthening the resilient characteristics of teachers.

In addition, future research might consider measuring the resilient characteristics of teachers with more than three years of teaching experience. The population of teachers with three or fewer years of teaching experience may or may not exhibit the same resilient characteristics of teachers with more than three years of teaching experience.

Summary

Chapter 5 presented a summary of the study and the conclusions resulting from it. This chapter also included a discussion of the theoretical implications as well as some practical applications pertaining to the findings of this study. Some suggestions for future research complete this chapter.

This study was designed as a beginning piece of research into the implications of resilience for teachers. The conclusions of this study reinforced the research on resilience and its impact on each individual's ability to "outmaneuver, outlast, outwit, or outreach any adversity encountered" (Wolin & Wolin, 1993, p. 7). The presence and strength of each aspect of resilience is important for all individuals. Werner (1984) found that "as long as the balance between stressful life events and protective factors is manageable for children they can cope. But when the stressful life events outweigh the protective factors, even the most resilient child can develop problems" (p. 71).

The research in the area of resilience as it pertains to education needs to be continued. This is just the beginning. The evidence of visible resilient patterns in this study just creates more questions. The research is clear about the effects of environment on resilience. Once the resilience of teachers is determined the impact on the higher levels of education for teachers, the staff development of teachers working within schools, the way in which teachers are active participants in the meaningful decision making process regarding education, and the respect for the teaching profession will be significant.

REFERENCES

Anthony, E. J. (1974). The syndrome of the psychologically invulnerable child. In E. J. Anthony & C. Koupernik, (Eds.), *The child and his family: Children at psychiatric risk* (pp. 3-10). New York: John Wiley and Sons.

Anthony, E. J. (1987). Risk, vulnerability and resilience: An overview. In E. J. Anthony & B. Cohler, (Eds.), *The invulnerable child* (pp. 3-48). New York: Guilford Press.

Ayers, J. B.(1980, April). *A longitudinal study of teachers.* Paper presented at the annual meeting of the American Educational Research Association, Boston.

Bandura, A. (1977). Self efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84,* 191-215.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28,* 117-148.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* W. H. Freeman and Company.

Benard, B. (1991). Fostering resiliency in kids: Protective factors in the family, school, and community. Portland, OR: Western Center for Drug-Free Schools and Communities. (ERIC Document Reproduction Service No. ED 335781)

Benard, B. (1993, a). Fostering resiliency in kids. *Educational Leadership,* 44-48.

Bernard, B. (1993, b). Resiliency requires changing hearts and minds. Portland, OR; Western Center for Drug-Free Schools and Communities. (ERIC Document Reproduction Service No. ED 364981)

Benard, B. (1996, Spring). Creating resiliency-enhancing schools: Relationships, motivation beliefs, and schoolwide reform. *Resiliency in Action*, 5-38.

Betancourt-Smith, M., Inman, D., & Marlow, L. (1994). Professional attrition: An examination of minority and non-minority teachers at risk. Annual Meeting Mid-South Educational Research Association, Nashville, TN. (ERIC Document Reproduction Service No. ED 388639)

Blechman, E., & Culhane, S. (1993). Aggressive, depressive, and pro-social coping with affective challenges in early adolescence. *Journal of Early Adolescence, 13*(4), 361-382.

Block, J. (1993). *Ego-resilience through time.* Berkeley, CA: University of California. (ERIC Document Reproduction Service No. ED356879)

Boe, E. E., Barkanic, G., & Leow, C. S. (1999). *Retention and attrition of teachers at the school level: National trends and predictors.* (Data Analysis Report No. 1999-DA). Philadelphia, PA: University of Pennsylvania, Center for Research and Evaluation in School Policy.

Chaddock, G. R. (1999). Bridging the great teacher gap. *Christian Science Monitor, 91*(191), 1-4.

Cohen, J. (1992). A Power Primer. *Psychological Bulletin, 112*(1), 155-159.

Conner, D. R. (1992*). Managing at the speed of change.* New York: Villard Books.

Demos, V. (1989). Resiliency in infancy. In T. Dugan & R. Coles (Eds.), *The child in our times: Studies in the development of resiliency* (pp. 3-22). New York: Brunner-Mazal.

Egeland, B. R., Carlson, E., Sroufe, L. A.(1993). Resilience as a process. *Development and Psychopathology, 5*(4), 517-528.

Freedman, D.G.(1979). *Human Sociobiology: A holistic approach.* New York: The Free Press.

Fuller, F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal, 6*, 207-226.

Ganser, T. (1995). A road map for designing quality mentoring programs for beginning teachers. Paper presented at the Annual Conference of the Wisconsin Association for Middle Level Education. Stevens Point, WI.

Garmezy, N. (1991). Resiliency and vulnerability to adverse developmental outcomes associated with poverty. *American Behavioral Scientist, 34*(4), 416-430.

Garmezy, N., & Rutter, M. (1983*). Stress, coping, and development in children.* New York: McGraw-Hill.

Gerstner, L. (1994). *Reinventing education: Entrepreneurship in America's public schools.* New York, NY: Dutton.

Glaser, M., Butler, J., & Pryor, B. (1998). Apprehension about communication and human resilience. *Psychological Reports, 82,* 583-586.

Glassberg, S. (1979). A developmental model for the beginning teacher. In K. R. Howey & R. H. Bents (Eds*.), Toward meeting the needs of the beginning teacher* (pp. 111-139). Lansing, MI: Midwest Teacher Corps, Network. (ERIC Document Reproduction Service No. ED 206 581)

Gold, Y. (1996). Beginning teacher support – Attrition, mentoring, and induction. In J. Sikula, T. J. Buttery, and E. Guyton, *Handbook of Research on Teacher Education, Second edition* (pp. 548-594). Macmillian, NY: Simon & Schuster.

Gosetti, P. P., & Rusch, E. (1995). Reexamining educational leadership: Challenging assumptions. In D. M. Dunlap & P. A. Schmuck (Eds.), *Women leading in education.* New York: State University of New York Press.

Green, S. B., Salkind, N. J., & Akey, T. M. (1997). *Using SPSS for Windows.* Upper Saddle River, NJ: Prentice-Hall.

Hammond, O. W. & Onikama, D. L. (1997). *At Risk Teachers.* Honolulu, HI. Pacific Resources for Education and Learning. (ERIC Document Reproduction Service No. ED 442 796)

Hauser, S. T., Vieyra, M. A. B., Jacobson, A. M., & Wertlieb, D. (1985). Vulnerability and resiliency in adolescence: Views from the family. *Journal of Early Adolescence, 5*(1), 81-100.

Henderson, N. & Milstein, M. M. (1996). *Resiliency in schools: Making it happen for students and educators.* Thousand Oaks, CA: Corwin Press.

Higgins, G. (1994). *Resilient adults: Overcoming a cruel past*. San Francisco, CA: Jossey-Bass Publishers.

Hoopes, L. L., Hagan, S., & Conner, D. (1993). Change resilience: A cognitive resource approach. Unpublished manuscript, Copyright, ODR, all rights reserved.

Issac, S., & Michael, W. B. (1995). *Handbook in research and evaluation*. San Diego, CA: EdITS/Educational and Industrial Testing Services.

Jew, C. L. (1991). *Development and validation of a measure of resiliency.* Unpublished doctoral dissertation, University of Denver.

Joseph, J. M. (1994). *The resilient child: Preparing today's youth for tomorrow's world*. New York: Plenum Press.

Katz, L. G. (1972). Developmental stages of preschool teachers. *Elementary School Journal, 73*, 50-54.

Kerlinger, F. N. (1979). *Behavioral research: A conceptual approach*. New York: Holt, Rinehart, and Winston.

Konrad, K., & Bronson, J. (1997). *Handling difficult times and learning resiliency. (Are you working with the heartwood or just the bark?).* AEE International Conference Proceedings. (ERIC Document Reproduction Service No. ED 404319)

Krovetz, M. L. (1999*). Fostering resiliency. Expecting all students to use their minds and hearts well.* Thousand Oaks, CA: Corwin Press.

Linquanti, R. (1992). *Using community-wide collaboration to foster resiliency in kids: A conceptual framework*. San Francisco: Western Regional Center for Drug-Free Schools and Communities, Far West Laboratory for Educational Research and Development.

Lorsbach, A.W. & Jinks, J. L. (1999). Self-Efficacy theory and learning environment research. *Learning Environment Research,2*, 157-167.

Luther, S. S. (1991). Vulnerability and resiliency: a study of high-risk adolescents. *Child Development, 62,* 600-616.

Maddi, S. R. (1997). Personal views survey II. In C. P. Zalaquett & R. J. Wood (Eds.), *Evaluating stress: A book of resources* (pp. 293-309). Lanham, MD: Scarecrow Press.

Masten, A., Best, K., Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2*, 425-444.

Montano, R. R. (1998). *Resiliency characteristics of women in education*. Unpublished doctoral dissertation, Northern Arizona University.

Muller, W. (1992). *Legacy of the heart: The spiritual advantages of a painful childhood*. New York: Simon and Schuster.

Munson, P. (1991). *Winning teachers/Teaching winners.* Santa Cruz, CA: ETR Associates.

Noonan, C. (1999). Brief interventions foster student resiliency. *The Education Digest, 64*(8), 36-39.

Nowack, K. M. (1989). Coping style, cognitive hardiness, and health status. *Journal of Behavioural Medicine, 12*, 145-158.

ODR, (1994). *Personal Resilience Profile,* Atlanta: Author.

Osofsky, E. [Ed.] (1979). *Handbook for research on infant development.* New York: Wiley.

Pasternack, R., & Martinez, K. (1996). Resiliency: What is it and how can correctional educational practices encourage its development? *Preventing School Failure,40,* 63-66.

Pines, M. (1984). Resilient Children: The search for protective factors. *American Educator, 8*(3). 34 – 37.

Rak, C. F., & Patterson, L. E. (1996). Promoting resilience in at-risk children. *Journal of Counseling & Development, 74*, 368-373.

Richardson, G. E., Neiger, B. L., Jensen, S., & Kumpfer, K. L. (1990). The resiliency model. *Health Education, 21*(6).

Rirkin, M., & Hoopman, M. (1991). *Moving beyond risk to resiliency*. Minneapolis, MN: Minneapolis Public Schools.

Rutter, M. (1988). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57*(3), 316-331.

Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In J. Rolf, A. Masten, D. Cicchetti, K. Neuchterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology*. New York: Cambridge University Press.

Sagor, R. (1996, September). Building resiliency in students. *Educational Leadership*. 38-43.

Sameroff, A. & Chandler, M.J. (1975). Reproductive risk and the continuum of caretaking casualty. In F. D. Horowitz (Ed.) *Review of Child Development Research, IV*, (pp. 87- 244). Chicago: University of Chicago Press.

Sparks, D. (1999, October). The real reason we don't invest in staff development. *National Staff Development Council, 2.*

Sprinthall, N. A., & Thies-Sprinthall, L. (1983). The teacher as an adult learner: A cognitive-developmental view. In G. A. Griffin (Ed.), *Staff Development: Eighty-Second Yearbook of the National Society for the Study of Education* (pp. 13-35). Chicago: University of Chicago Press.

Steffy, B.E., Wolfe, M. P., Pasch, S. H., & Enz, B. J. [Eds.] (1999). *Life Cycle of the Career Teacher,* Thousand Oaks, CA: Corwin Press.

Thomas, J. (1998). Teachers—supply and demand. *Women in Business, 50*(6). 26-29.

Tschannen-Moran, M., Hoy, A., W., & Hoy, W. K. (1998).Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68(2),* 202-248.

Valentine, L., & Feinauer, L. L. (1993). Resilience factors associated with female survivors of childhood sexual abuse. *American Journal of Family Therapy, 21,* 216-224.

Veenman, S. (1984). Perceived problems of beginning teachers. *Review of Educational Research, 54*(2), 143-178.

Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the resilience scale. *Journal of Nursing Measurement, 1,* 165-171.

Warshaw, T. A., & Barlow, D. (1995). *Resiliency: How to bounce back faster, stronger, and smarter*. New York: Master Media, LTD.

Watt, N. (1984). *Children at-risk for schizophrenia: A longitudinal perspective.* New York: Cambridge University Press.

Werner, E. E. (1984). Resilient children. *Young Children, 40*(1), 68-72.

Werner, E. E. (1989). High risk children in young adulthood: A longitudinal study from birth to 32 years. *American Journal of Orthopsychiatry, 59*, 72-81.

Werner, E. E. (1990). Protective factors and individual resilience. In S. Meisel & J. Shonkoff, (Eds.), *Handbook of early intervention.* Cambridge, MA: Harvard University Press.

Werner, E. E., & Smith, R. (1982). *Vulnerable but Invincible.* Cornell, NY: Cornell University Press.

Werner, E. E. & Smith, R. E. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Cornell, NY: Cornell University Press.

White, R. (1974). Strategies of adaptation: An attempt at systematic description. In G. V. Coelho, D.A. Hamburg & J. E. Adams (Eds.), *Coping and Adaptation.* (pp. 47 – 67). New York: Basic Books.

Wilson, E. O. (1978). *On human nature.* Cambridge, MA: Harvard University Press.

Wolin, S. J., & Wolin, S. (1993). *The resilient self: How survivors of troubled families rise above adversity.* New York: Villard Books.

Younkin, S. L., & Betz, N. E. (1996). Psychological hardiness: A reconceptualization and measurement. In T. W. Miller (Ed.), *Theory and assessment of stressful life events. International Universities Press stress and health series* (pp. 161-178). Madison, CT: International Universities Press.

Werner, E. E. (1989). High risk children in young adulthood: A longitudinal study from birth to 32 years. *American Journal of Orthopsychiatry, 59*, 72-81.

Werner, E. E. (1990). Protective factors and individual resilience. In S. Meisel & J. Shonkoff, (Eds.), *Handbook of early intervention.* Cambridge, MA: Harvard University Press.

Werner, E. E., & Smith, R. (1982). *Vulnerable but Invincible.* Cornell, NY: Cornell University Press.

Werner, E. E. & Smith, R. E. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Cornell, NY: Cornell University Press.

White, R. (1974). Strategies of adaptation: An attempt at systematic description. In G. V. Coelho, D.A. Hamburg & J. E. Adams (Eds.), *Coping and Adaptation.* (pp. 47 – 67). New York: Basic Books.

Wilson, E. O. (1978). *On human nature.* Cambridge, MA: Harvard University Press.

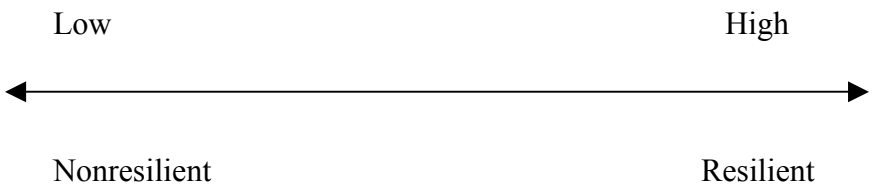
Wolin, S. J., & Wolin, S. (1993). *The resilient self: How survivors of troubled families rise above adversity.* New York: Villard Books.

Younkin, S. L., & Betz, N. E. (1996). Psychological hardiness: A reconceptualization and measurement. In T. W. Miller (Ed.), *Theory and assessment of stressful life events. International Universities Press stress and health series* (pp. 161-178). Madison, CT: International Universities Press.

APPENDICES

Appendix A

Resilience Continuum



Positive

Expects future to be orderly and predictable.	Expects future to be filled with constantly shifting variables.
Interprets unmet expectations as personal vendettas or conspiracies.	Views disruptions as the natural result of a changing world.
Feels that most challenges are usually unfair and serve no purpose.	Believes there are lessons to be learned from challenges.
Sees life as generally punishing.	Sees life as generally rewarding.

Focused

Lacks an overarching purpose or vision.	Maintains a strong vision that serves as a source of meaning and as a guidance system.

Flexible

Has a low tolerance for ambiguity.	Has a high tolerance for ambiguity.
Feels victimized during change.	Feels empowered during change.
Fails to break from established ways of seeing things.	Challenges assumptions and modifies them when necessary.
Does not develop and maintain nurturing relationships that can be used for support.	Relies on nurturing relationships for support.
Lacks patience, understanding, and humor. humor.	Displays patience, understanding, and humor.

Organized

Becomes lost when faced with confusing information.	Identifies the underlying themes embedded in confusing situations.
Fails to manage multiple simultaneous tasks and demands effectively.	Manages many tasks and demands successfully.
Fails to ask for help when needed.	Recognizes when to ask for help.

Proactive

Rigidly adheres to old operating style when facing the unexpected.	Improvises new approaches and maneuvers to gain an advantage.
Does not take risks.	Takes risks.
Reacts to disruption by blaming, attacking, and/or defending.	Responds to disruption by investing energy in problem solving and teamwork.

Appendix B

Instrument

Sample Items for the Personal Resilience™ Questionnaire

1. If a day starts out badly, things will probably be bad all day.
2. Questions that don't have a right answer are really frustrating.
3. I feel at ease with most people fairly quickly.
4. I hate to make schedules and then have to stick to them.
5. I feel good about things I have done with my life so far.
6. I maintain my focus on achieving my goals even when there are obstacles in my path.
7. I prefer to try new restaurants and unusual dishes when I eat out.

The Personal Resilience Profile sub-scale to which each item corresponds:

1. POSITIVE: The World
2. FLEXIBLE: Thinking
3. FLEXIBLE: Social
4. ORGANIZED
5. POSITIVE: Yourself
6. FOCUSED
7. PROACTIVE

Entire scale may be obtained by contacting ODR, Inc., 2900 Chamblee-Tucker Road, Building 16, Atlanta, GA 30341-4129; (404) 455-7145.
Source: Provided by L.L. Hoopes, ODR, Inc., 1994.

Appendix C

Letter Sent to Participants

Dear administrators,

Thanks for being willing to take the time to participate in this study. I know how busy you are and how busy your teachers are as well. As a fellow teacher in a Christian school, I applaud you for taking the time to research our teachers in an effort to create and/or keep quality teachers in our classrooms.

The purpose of this study is to measure the "resilient characteristics" of teachers with three or fewer years of classroom experience in all grade level classrooms. "Resilience" is defined as the capacity to adapt to change. New teachers live in a world of constant change. Are the people who choose to teach in a Christian school atmosphere inherently resilient? Do we provide teaching environments where resiliency is fostered? The resiliency of teachers as a group has never been measured. The only study of the resiliency of teachers was conducted with a group of elementary teachers who participated in a study to measure their resilience with respect to their apprehension about public forms of communication. Hopefully this study will begin the research base about the resiliency of teachers.

To participate in this study you will only need to:

1. **Please send me, by e-mail, phone, or fax the number of teachers in your schools who meet the teaching experience requirement for this study so that I can record the population for this study. My numbers are listed below.**

2. Gather all the teachers in your school with three or fewer years of teaching experience (total years of experience, not just in your school) and ask them to fill out the Personal Resilience Questionnaire. This questionnaire should take no more than 15 minutes.

3. The Personal Resilience Questionnaire can be done on the computer or by filling out a paper and pencil copy.

   ***If you have Internet access at your school**, the teachers with three or fewer years of teaching experience may take the Personal Resilience Questionnaire by visiting this web site**:** http://www.homestead.com/resiliency

   Your teachers will need these codes to complete the questionnaire:

   Organizational Code: 0001
   Group Code: 020
   Ignore Code A and Code B

As soon as your teachers complete the questionnaire please contact me to let me know that you are finished.

****If you do not have internet access**, then you will need a paper copy of the Personal Resilience Questionnaire for each teacher that qualifies. If you will send me the number of teachers that you have I will mail you the paper copies as soon as possible.

Thank you for participating in this study. It is imperative that I receive the data from you as soon as possible.

Thanks,

Betty A. Morris
Phone number: 770-243-2252 (work); 770-932-9945 (home)
E-mail address: **bettymo@gacs.pvt.k12.ga.us**
Fax #: 770-243-2259

Appendix D

Summary of Independent Variables for the Sample of Participants

Independent Variables	Frequency	Percent
Age		
Younger teachers (20 – 25 years)	119	49
Middle teachers (26 – 30 years)	55	23
Older teachers (>30 years)	69	28
Total	243	
Gender		
Male	58	23
Female	190	77
Total	248	
Presence of children under age 18		
No	84	35
Yes	159	65
Total	243	
Marital status		
Single	85	34
Married	155	63
Divorced	5	2
Other	2	1
Total	247	
Exercise frequency		
Rarely	45	19
Occasionally	70	29
Weekly	30	12
Twice a week	23	10
Three times a week or more	72	30
Total	240	

Independent Variables	Frequency	Percent
Level of education		
Bachelor's degree	187	78
Master's degree	50	21
Ph.D. or equivalent degree	3	1
Total	240	
Teaching assignment combination		
Certified and teaching in same field as degree	144	59
Certified and teaching in different field than degree	21	9
Temp. cert./teaching in same field as degree	12	5
Temp. cert./teaching in different field than degree	4	2
Not cert. but educated in current teaching field	55	22
Not cert. or educated in current teaching field	8	3
Total	244	
Years of classroom teaching experience		
One	47	19
Two	65	27
Three	133	54
Total	245	
School level		
Elementary (K through 5^{th} grade)	103	43
Junior high (6^{th} through 8^{th} grade)	51	22
High school (9^{th} through 12^{th} grade)	83	35
Total	237	

Appendix E

Member Schools

School and location	Number of qualified teachers	Number of participating teachers
Abilene Christian Schools, TX	5	3
Agape Christian Academy, FL		
Alabama Christian Academy, AL	7	1
Albuquerque Christian School, NM	7	6
Aletheia School, DE	2	2
Anderson Christian School, IN	5	4
Arlington Christian School, GA	9	8
Boyd Christian School, TN	2	2
Boyd-Buchanan School, TN	7	5
Brentwood Christian School, TX	15	12
Campbell Christian School, CA	4	4
Central Arkansas Christian Schools, AR	7	7
Christian Academy of Greater St. Louis, MO	6	5
Christian Heritage Schools, TX	3	3
Christian Home and Bible School, FL	9	9
Christian School of Kingwood, TX	0	0
Columbia Academy, TN	5	5
Columbus Christian School, MS	2	2
Coventry Christian Schools, PA	6	5
Crowley's Ridge Academy, AR	1	1
Dallas Christian School, TX	2	2
David Lipscomb Campus School, TN	5	5
East Texas Christian Academy, TX	2	2
Ezell-Harding Christian School, TN	7	5
Fort Worth Christian School, TX	6	6

School and location	Number of qualified teachers	Number of participating teachers
Foundation Christian Academy, KY	0	0
Friendship Christian School, TN	9	9
Goodpasture Christian School, TN	8	8
Greater Atlanta Christian School, GA	22	21
Gulf Coast Christian School, FL	1	1
Harding Academy, AR	1	1
Harding Academy of Memphis, TN	0	0
High Point Christian Academy, TX	6	6
Jackson Christian School, TN	10	10
Knoxville Christian School, TN	4	4
Lubbock Christian School, TX	9	9
Madison Academy, AL	10	10
Mars Hill Bible School, AL	5	5
Middle Georgia Christian, GA	8	7
Middle Tennessee Christian School, TN	6	5
Midland Christian School, TX	8	6
Mobile Christian School, AL	5	5
Mountain View Christian School, CA	0	0
Nashville Christian School, TN	4	3
Neosho Christian Schools, MO	0	0
Northland Christian School, TX	7	4
Oklahoma Christian Academy, OK		
Ouachita Christian School, LA		
Panorama Christian School, CA	0	0
Pike's Peak Christian School, CO	3	3
Prattville Christian Academy, AL	3	3
Providence Christian School, TX	1	1

School and location	Number of qualified teachers	Number of participating teachers
Randolph Christian Academy, TX	0	0
Redland Christian Academy, FL	0	0
Roundtree Christian Academy, KS	1	1
Riverside Christian Academy, TN	3	3
Shultz-Lewis School, IN	1	1
Southwest Christian School, AR	3	3
Southwest Christian School, TX	2	2
Stark County Christian, OH	1	1
Tropical Christian School, FL	0	0
Turnpike Christian School, TX	2	2
Valley Christian Academy, MI	0	0
Valley Christian Heritage School, TX	2	2
Victoria Christian School, TX	1	1
Weatherford Christian School, TX		
Westbury Christian School, TX	18	6
Western Christian School, CA		
Westgate Christian School, AL	0	0
White House Christian Academy, TN	1	1
Wichita Christian School, TX	0	0

Appendix F

Descriptive Statistics for Total Sample

Table F1

Research Question 1: Resilient Characteristics versus Age of Teacher

	Age range classification	Mean	Standard deviation	*N*
Positive world	20-25 years	69.53	12.54	119
	26-30 years	67.75	11.71	55
	> 30 years	73.61	11.72	69
	Total	70.28	12.28	243
Positive self	20-25 years	75.88	11.50	119
	26-30 years	76.47	11.77	55
	> 30 years	75.42	11.61	69
	Total	75.88	11.55	243
Focus	20-25 years	72.61	13.45	119
	26-30 years	73.85	13.74	55
	> 30 years	74.26	10.67	69
	Total	73.36	12.76	243
Flexible thoughts	20-25 years	55.19	11.85	119
	26-30 years	55.09	14.03	55
	>30 years	56.49	12.55	69
	Total	55.54	12.53	243
Flexible social	20-25 years	70.74	11.73	119
	26-30 years	68.18	11.25	55
	> 30 years	69.59	13.22	69
	Total	69.84	12.06	243
Organized	20-25 years	64.96	15.04	119
	26-30 years	57.75	15.21	55
	> 30 years	63.88	13.18	69
	Total	63.02	14.80	243
Proactive	20-25 years	57.28	11.38	119
	26- 30 years	58.98	12.24	55
	> 30 years	58.64	12.42	69
	Total	58.05	11.85	243

Table F2

Research Question 2: Resilient Characteristics versus Gender of Teacher

	Gender	Mean	Standard deviation	*N*
Positive world	Male	69.69	11.97	58
	Female	70.61	12.34	190
	Total	70.39	12.24	248
Positive self	Male	76.52	11.73	58
	Female	75.92	11.51	190
	Total	76.06	11.54	248
Focus	Male	72.07	12.32	58
	Female	73.83	12.75	190
	Total	73.42	12.65	248
Flexible thoughts	Male	57.72	14.39	58
	Female	55.13	12.01	190
	Total	55.73	12.62	248
Flexible social	Male	66.57	10.73	58
	Female	70.92	12.21	190
	Total	69.90	12.00	248
Organized	Male	59.07	16.27	58
	Female	64.32	13.99	190
	Total	63.09	14.69	248
Proactive	Male	57.41	11.08	58
	Female	58.33	12.21	190
	Total	58.11	11.94	248

Table F3

Research Question 3: Resilient Characteristics versus Presence of Children in the Home under the Age of 18

	Possible categories	Mean	Standard deviation	*N*
Positive world	Yes	73.60	10.52	84
	No	68.76	12.78	159
	Total	70.43	12.24	243
Positive self	Yes	77.10	10.81	84
	No	75.76	11.89	159
	Total	76.22	11.52	243
Focus	Yes	75.76	10.09	84
	No	72.42	13.64	159
	Total	73.58	12.60	243
Flexible thoughts	Yes	56.45	12.42	84
	No	55.48	12.82	159
	Total	55.82	12.67	243
Flexible social	Yes	72.07	9.75	84
	No	69.01	12.69	159
	Total	70.07	11.83	243
Organized	Yes	63.96	12.86	84
	No	62.96	15.76	159
	Total	63.09	14.80	243
Proactive	Yes	58.90	12.44	84
	No	57.80	11.70	159
	Total	58.18	11.95	243

Table F4

Research Question 4: Resilient Characteristics versus Marital Status

	Marital status classifications	Mean	Standard deviation	*N*
Positive world	Single	68.05	12.02	85
	Married	71.84	12.36	155
	Divorced	67.60	10.53	5
	Other	64.00	2.83	2
	Total	70.38	12.26	247
Positive self	Single	75.08	12.04	85
	Married	76.72	11.34	155
	Divorced	74.80	13.08	5
	Other	71.00	4.24	2
	Total	76.07	11.56	247
Focus	Single	69.60	13.52	85
	Married	75.66	11.65	155
	Divorced	74.00	14.70	5
	Other	60.00	0.00	2
	Total	73.41	12.67	247
Flexible thoughts	Single	56.12	11.97	85
	Married	55.75	13.03	155
	Divorced	49.20	12.62	5
	Other	51.00	15.56	2
	Total	55.71	12.64	247
Flexible social	Single	69.24	12.70	85
	Married	70.27	11.81	155
	Divorced	70.80	10.73	5
	Other	69.00	1.41	2
	Total	69.91	12.02	247
Organized	Single	59.79	15.58	85
	Married	65.25	13.75	155
	Divorced	60.00	17.78	5
	Other	56.00	11.31	2
	Total	63.19	14.63	247
Proactive	Single	58.07	12.08	85
	Married	58.09	12.00	155
	Divorced	58.00	12.73	5
	Other	60.00	8.49	2
	Total	58.10	11.96	247

Table F5

Research Question 5: Resilient Characteristics versus Exercise Frequency of Teacher

	Exercise frequency classifications	Mean	Standard deviation	*N*
Positive world	Rarely	67.38	12.97	45
	Occasionally	70.17	12.89	70
	Weekly	71.73	11.05	30
	Twice a week	70.04	10.91	23
	Three times/week	73.28	11.28	72
	Total	70.76	12.12	240
Positive self	Rarely	71.38	13.39	45
	Occasionally	75.37	12.06	70
	Weekly	79.67	8.00	30
	Twice a week	75.83	10.53	23
	Three times/week	79.06	9.90	72
	Total	76.31	11.43	240
Focus	Rarely	68.93	12.18	45
	Occasionally	73.27	13.63	70
	Weekly	75.20	10.45	30
	Twice a week	75.48	13.79	23
	Three times/week	75.75	11.69	72
	Total	73.65	12.59	240
Flexible thoughts	Rarely	53.73	13.89	45
	Occasionally	56.20	12.37	70
	Weekly	55.60	11.36	30
	Twice a week	53.57	12.21	23
	Three times/week	57.36	13.11	72
	Total	55.76	12.73	240
Flexible social	Rarely	65.02	14.16	45
	Occasionally	70.46	11.18	70
	Weekly	74.27	10.37	30
	Twice a week	69.91	12.31	23
	Three times/week	71.01	10.12	72
	Total	70.03	11.73	240
Organized	Rarely	58.04	14.48	45
	Occasionally	60.97	15.31	70
	Weekly	67.13	12.67	30
	Twice a week	69.39	14.65	23
	Three times/week	65.00	14.10	72
	Total	63.21	14.75	240

	Exercise frequency classifications	Mean	Standard deviation	*N*
Proactive	Rarely	56.09	11.61	45
	Occasionally	58.26	12.20	70
	Weekly	59.93	10.30	30
	Twice a week	58.43	13.47	23
	Three times/week	58.83	12.23	72
	Total	58.25	11.96	240

Table F6

Research Question 6: Resilient Characteristics versus Level of Education Completed by Teacher

	Level of education completed	Mean	Standard deviation	*N*
Positive world	Bachelor's	70.36	11.88	187
	Master's	70.12	13.79	50
	Ph.D.	75.33	11.72	3
	Total	70.38	12.26	240
Positive self	Bachelor's	75.69	11.32	187
	Master's	77.48	11.17	50
	Ph.D.	90.67	7.57	3
	Total	76.25	11.35	240
Focus	Bachelor's	72.73	12.45	187
	Master's	75.68	12.74	50
	Ph.D.	86.00	9.17	3
	Total	73.51	12.57	240
Flexible thoughts	Bachelor's	55.56	12.53	187
	Master's	56.32	12.57	50
	Ph.D.	60.67	15.53	3
	Total	55.78	12.53	240
Flexible social	Bachelor's	71.04	10.97	187
	Master's	67.12	14.13	50
	Ph.D.	74.00	9.17	3
	Total	70.26	11.75	240
Organized	Bachelor's	63.35	14.79	187
	Master's	61.28	13.98	50
	Ph.D.	74.00	8.72	3
	Total	63.05	14.60	240
Proactive	Bachelor's	57.63	11.83	187
	Master's	59.72	11.66	50
	Ph.D.	71.33	10.07	3
	Total	58.23	11.85	240

Table F7

Research Question 7: Resilient Characteristics versus Combination of Teaching Assignment, Certification Status, and Field of Education

	Teaching assignment classifications	Mean	Standard deviation	*N*
Positive world	Cert. & teach in same field as degree	70.19	12.31	144
	Cert. & teach in different field than degree	72.10	13.51	21
	Temp. cert. & teach in same field as degree	74.00	13.16	12
	Temp. cert. & teach in different field than degree	74.00	12.11	4
	Not cert. but educated in current teaching assignment	68.42	11.39	55
	Not cert. or educated in current teaching field	78.00	10.36	8
	Total	70.46	12.23	244
Positive self	Cert. & teach in same field as degree	76.17	11.45	144
	Cert. & teach in different field than degree	74.67	8.93	21
	Temp. cert. & teach in same field as degree	83.67	9.41	12
	Temp. cert. & teach in different field than degree	80.00	16.08	4
	Not cert. but educated in current teaching assignment	75.05	11.49	55
	Not cert. or educated in current teaching field	71.50	16.89	8
	Total	76.07	11.52	244

	Teaching assignment classifications	Mean	Standard deviation	*N*
Focus	Cert. & teach in same field as degree	73.41	13.29	144
	Cert. & teach in different field than degree	73.14	12.24	21
	Temp. cert. & teach in same field as degree	75.50	11.32	12
	Temp. cert. & teach in different field than degree	79.00	15.71	4
	Not cert. but educated in current teaching assignment	72.47	11.08	55
	Not cert. or Educated in current teaching field	72.75	16.46	8
	Total	73.35	12.69	244
Flexible thoughts	Cert. & teach in same field as degree	54.83	12.55	144
	Cert. & teach in different field than degree	58.10	10.19	21
	Temp. cert. & teach in same field as degree	58.83	12.95	12
	Temp. cert. & teach in different field than degree	48.50	3.79	4
	Not cert. but educated in current teaching assignment	57.27	13.29	55
	Not cert. or educated in current teaching field	56.75	14.50	8
	Total	55.82	12.54	244

	Teaching assignment classifications	Mean	Standard deviation	*N*
Flexible social	Cert. & teach in same field as degree	71.02	11.75	144
	Cert. & teach in different field than degree	66.95	12.63	21
	Temp. cert. & teach in same field as degree	72.50	6.99	12
	Temp. cert. & teach in different field than degree	71.50	9.15	4
	Not cert. but educated in current teaching assignment	68.55	11.70	55
	Not cert. or educated in current teaching field	69.25	14.85	8
	Total	70.14	11.69	244
Organized	Cert. & teach in same field as degree	64.56	14.96	144
	Cert. & teach in different field than degree	62.48	13.39	21
	Temp. cert. & teach in same field as degree	66.33	12.84	12
	Temp. cert. & teach in different field than degree	74.00	14.79	4
	Not cert. but educated in current teaching assignment	57.56	13.87	55
	Not cert. or educated in current teaching field	67.00	16.63	8
	Total	63.12	14.78	244

	Teaching assignment classifications	Mean	Standard deviation	*N*
Proactive	Cert. & teach in same field as degree	56.31	12.18	144
	Cert. & teach in different field than degree	60.29	9.72	21
	Temp. cert. & teach in same field as degree	64.83	9.00	12
	Temp. cert. & teach in different field than degree	62.00	13.37	4
	Not cert. but educated in current teaching assignment	59.96	10.90	55
	Not cert. or educated in current teaching field	62.50	16.03	8
	Total	58.19	11.87	244

Table F8

Research Question 8: Resilient Characteristics versus Years of Classroom Teaching Experience

	Years of classroom teaching experience	Mean	Standard deviation	*N*
Positive world	One	72.21	12.41	47
	Two	69.85	13.33	65
	Three	70.29	11.59	133
	Total	70.54	12.21	245
Positive self	One	77.79	12.27	47
	Two	74.86	11.60	65
	Three	76.14	11.23	133
	Total	76.11	11.53	245
Focus	One	74.17	13.84	47
	Two	71.08	14.09	65
	Three	74.37	11.44	133
	Total	73.46	12.69	245
Flexible thoughts	One	55.79	12.48	47
	Two	56.15	11.73	65
	Three	55.82	13.13	133
	Total	55.90	12.60	245
Flexible social	One	70.40	13.07	47
	Two	70.34	12.10	65
	Three	69.80	11.12	133
	Total	70.06	11.73	245
Organized	One	64.00	14.58	47
	Two	61.26	13.15	65
	Three	63.62	15.55	133
	Total	63.07	14.75	245
Proactive	One	58.85	12.47	47
	Two	57.97	11.17	65
	Three	58.26	12.01	133
	Total	58.29	11.84	245

Table F9

Research Question 9: Resilient Characteristics versus School Level

	School level classification	Mean	Standard deviation	*N*
Positive world	Elementary	71.62	11.72	103
	Junior High	69.73	11.75	51
	High School	69.81	12.89	83
	Total	70.58	12.13	237
Positive self	Elementary	75.42	11.26	103
	Junior High	75.53	11.44	51
	High School	77.78	11.65	83
	Total	76.27	11.44	237
Focus	Elementary	74.89	11.71	103
	Junior High	72.24	14.35	51
	High School	72.26	12.59	83
	Total	73.57	12.62	237
Flexible thoughts	Elementary	53.86	11.67	103
	Junior High	57.14	10.82	51
	High School	57.16	14.50	83
	Total	55.72	12.63	237

	School level classification	Mean	Standard deviation	*N*
Flexible social	Elementary	71.53	11.62	103
	Junior High	70.35	12.26	51
	High School	68.81	11.21	83
	Total	70.32	11.63	237
Organized	Elementary	65.57	14.81	103
	Junior High	63.65	12.12	51
	High School	59.86	16.03	83
	Total	63.16	14.88	237
Proactive	Elementary	55.86	11.73	103
	Junior High	58.55	10.87	51
	High School	60.55	12.09	83
	Total	58.08	11.82	237

Note. Elementary included kindergarten through 5th grade, junior high included 6th through 8th grade, and high school included 9th through 12th grade.

Table F10

Research Question 10: Resilient Characteristics versus Level of Religious and/or Spiritual Affiliation

	Religious and/or spiritual affiliation	Mean	Standard deviation	*N*
Positive world	Extremely	73.18	10.88	103
	Highly	69.51	11.52	91
	Moderately	68.00	14.41	30
	Somewhat	63.44	12.76	18
	Not at all	72.00	26.68	4
	Total	70.46	12.27	246
Positive self	Extremely	78.68	10.48	103
	Highly	74.68	9.87	91
	Moderately	73.47	15.73	30
	Somewhat	72.33	11.00	18
	Not at all	79.50	22.47	4
	Total	76.11	11.45	246
Focus	Extremely	75.96	10.81	103
	Highly	72.14	10.09	91
	Moderately	71.47	18.05	30
	Somewhat	66.67	17.19	18
	Not at all	87.00	16.37	4
	Total	73.50	12.59	246
Flexible thoughts	Extremely	56.91	11.40	103
	Highly	54.62	13.27	91
	Moderately	52.33	13.87	30
	Somewhat	59.67	11.87	18
	Not at all	65.50	14.18	4
	Total	55.85	12.61	246

	Religious and/or spiritual affiliation	Mean	Standard deviation	*N*
Flexible social	Extremely	73.53	11.11	103
	Highly	68.31	10.29	91
	Moderately	68.97	11.33	30
	Somewhat	63.89	14.66	18
	Not at all	72.00	18.83	4
	Total	70.19	11.59	246
Organized	Extremely	63.84	14.59	103
	Highly	63.23	14.18	91
	Moderately	59.93	16.50	30
	Somewhat	61.22	13.91	18
	Not at all	69.50	23.57	4
	Total	63.04	14.74	246
Proactive	Extremely	58.02	11.82	103
	Highly	58.46	11.49	91
	Moderately	55.20	13.30	30
	Somewhat	61.89	10.64	18
	Not at all	68.50	4.12	4
	Total	58.29	11.82	246

Table F11

Research Question 11: Resilient Characteristics versus Relationship Between Work and Life

	Relationship between work and life classifications	Mean	Standard deviation	*N*
Positive world	Keeps work mostly separate from rest of life	67.53	13.18	53
	Work and other activities overlap to some extent	72.93	12.50	120
	Work and other activities overlap to a great extent	68.24	10.30	58
	Work is highly intertwined with rest of life	69.86	11.35	14
	Total	70.48	12.29	245
Positive self	Keeps work mostly separate from rest of life	76.23	11.64	53
	Work and other activities overlap to some extent	77.27	10.77	120
	Work and other activities overlap to a great extent	74.59	12.21	58
	Work is highly intertwined with rest of life	72.71	13.12	14
	Total	76.15	11.46	245
Focus	Keeps work mostly separate from rest of life	73.40	14.00	53
	Work and other activities overlap to some extent	75.21	11.47	120
	Work and other activities overlap to a great extent	72.03	11.96	58
	Work is highly intertwined with rest of life	66.29	16.32	14
	Total	73.56	12.59	245
	Relationship between work and life classifications	Mean	Standard deviation	*N*

Flexible thoughts	Keeps work mostly separate from rest of life	53.40	11.82	53
	Work and other activities overlap to some extent	55.70	12.73	120
	Work and other activities overlap to a great extent	58.97	13.76	58
	Work is highly intertwined with rest of life	54.57	5.89	14
	Total	55.91	12.59	245
Flexible social	Keeps work mostly separate from rest of life	66.36	12.86	53
	Work and other activities overlap to some extent	72.18	10.39	120
	Work and other activities overlap to a great extent	70.38	11.41	58
	Work is highly intertwined with rest of life	67.00	14.27	14
	Total	70.20	11.61	245
Organized	Keeps work mostly separate from rest of life	64.08	13.27	53
	Work and other activities overlap to some extent	66.18	14.32	120
	Work and other activities overlap to a great extent	58.14	13.67	58
	Work is highly intertwined with rest of life	52.43	19.30	14
	Total	63.04	14.77	245
Proactive	Keeps work mostly separate from rest of life	57.58	11.36	53
	Work and other activities overlap to some extent	58.63	12.27	120
	Work and other activities overlap to a great extent	59.00	11.61	58
	Work is highly intertwined with rest of life	55.43	11.38	14
	Total	58.31	11.84	245

Table F12

Research Question 12: Resilient Characteristics versus Teacher Self-Rating of General Resilience

	Self-rated description of general resilience	Mean	Standard deviation	*N*
Positive world	Much higher than average	77.24	11.38	42
	Somewhat higher than average	71.62	10.96	113
	About average	65.93	11.63	84
	Somewhat lower than average	50.00	9.38	4
	Total	70.27	12.15	243
Positive self	Much higher than average	81.95	9.77	42
	Somewhat higher than average	77.33	9.88	113
	About average	71.64	12.16	84
	Somewhat lower than average	65.00	13.22	4
	Total	75.96	11.39	243
Focus	Much higher than average	79.00	11.86	42
	Somewhat higher than average	74.92	10.54	113
	About average	68.80	13.21	84
	Somewhat lower than average	61.50	20.02	4
	Total	73.29	12.50	243

	Self-rated description of general resilience	Mean	Standard deviation	*N*
Flexible thoughts	Much higher than average	59.19	10.76	42
	Somewhat higher than average	57.50	12.76	113
	About average	51.74	12.30	84
	Somewhat lower than average	50.50	11.93	4
	Total	55.69	12.58	243
Flexible social	Much higher than average	71.40	11.44	42
	Somewhat higher than average	72.07	11.38	113
	About average	67.00	11.06	84
	Somewhat lower than average	58.50	7.19	4
	Total	69.98	11.50	243
Organized	Much higher than average	66.38	11.79	42
	Somewhat higher than average	63.65	15.08	113
	About average	60.64	13.64	84
	Somewhat lower than average	45.50	31.00	4
	Total	62.78	14.61	243
Proactive	Much higher than average	60.81	10.22	42
	Somewhat higher than average	60.44	10.65	113
	About average	54.12	12.20	84
	Somewhat lower than average	51.50	26.45	4
	Total	58.17	11.83	243