A Study of the Protective Factors that Foster Resilience in Teachers

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A Study of the Protective Factors that Foster Resilience in Teachers

by

Zundra Diane Gates

A Dissertation
Submitted to the Graduate School,
the College of Science and Technology
and the Center for Science and Mathematics Education
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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August 2018
ABSTRACT

The purpose of this study was to compare the protective factors of teachers in various fields: discipline, tested and non-tested subject areas, and teacher certification route. The study involved 161 kindergarten to twelfth grade Mississippi teachers who were full-time during the 2016-2017 school year. The 36-item Resiliency Questionnaire was used to measure the presence of six protective factors. The six protective factors that were examined on the questionnaire are: purpose and expectation (PE), nurture and support (NS), positive connections (PC), meaningful participation (MP), life guiding skills (LGS), and clear and consistent boundaries (CCB). A multivariate analysis of variance (MANOVA) test was used to analyze the differences in protective factors based on discipline, tested and non-tested subjects, and teacher education route. The univariate analysis of the MANOVA was used to examine the relationship among the independent variables and the six protective factors subscales separately. The data showed that each independent variable does not have a significant effect on the protective factors when they were considered collectively. There were significant differences among teaching disciplines on the subscale of nurture and support, purpose and expectations, and life-guiding skills. There was also a significant difference between teachers who are traditional and alternate route certified on the subscale of nurture and support.
ACKNOWLEDGMENTS

The University of Southern Mississippi has provided me with the chance to be connected to some of the most amazing mentors and advisors.

I would like to specifically thank those who have made this process possible, especially Dr. Sherry Herron. You may never know how big of an influence you have made in my life as your student and a fellow educator. Thank you for understanding that life happens while pushing me to the finish line as well.

Thank you to the rest of my committee members: Dr. Kyna Shelley, Dr. Thomas Lipsomb, Dr. Christopher Sirola, and Dr. Shahid Karim. I am grateful for your insight, time, and encouragement.
DEDICATION

To my loving husband Antoine, you entered into my life at the perfect moment. Thank you for praying for me through this process and being an awesome dad to Allison while I finished this document.

To my dear Allison, thank you for motivating mommy to finish. I look forward to spending more of my free time with my pretty baby girl. I love you more than you know.

To my mom, dad, and brother, thank you for always believing in me even when I doubted myself.
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CHAPTER I – INTRODUCTION

Background

Resilience is the capacity to successfully adapt to, or bounce back from, difficult events or situations (Muller, Gorrow, and Fiala, 2011; Howard and Johnson, 2004; Henderson and Milstein, 1996). Most of the early research on resilience focused on children, while more recent studies include adults and more specifically educators (Werner, 1986). Many researchers have proposed that teacher retention is heavily dependent on teacher resilience (Muller et al., 2011; Taylor, 2013; Bobeck, 2002; Gu and Day, 2013). Research has also determined personal, social, familial, and institutional safety nets, also known as protective factors, help individuals resist stress and build resilience (Doney, 2012; Howard and Johnson, 2004). These protective factors can be both environmental and internal. Some of the protective factors that teachers use are clear and consistent boundaries, increased bonding, caring and support, setting and communicating high expectations, and opportunity for meaningful participation (Henderson and Milstein, 1996; Howard and Johnson, 2004, Muller et al., 2011; Muller, Dodd, Fiala, 2014).

These protective factors have been researched using many different perspectives. Research has focused on these protective factors as being tools to help build resilience. There have also been studies that focus on the existence of protective factors in pre-service teachers. Several studies call attention to the comparison of protective factors in novice and experienced teachers. Research has also studied the comparison of protective factors in a variety of settings. There have been studies that focused on teacher resilience in urban and rural schools, as well as those with varying socio-economic status. Last,
resilience has been compared in health educators who work in the classroom and those in community-based settings (Muller et al., 2014).

Many of the aforementioned protective factors have been greatly researched, and their relationships with teacher resilience have been examined. Most of the research conducted on the protective factors of teachers used qualitative methods resulting in the researcher inferring the protective factors present (Howard et al. 2004, Doney, 2012, Henderson and Milstein, 1996).

As for the protective factor of increased bonding, research has shown that when educators interact with each other in cooperative efforts they have higher chances of building resilience (Henderson and Milstein, 1996; Howard and Johnson, 2004, Bobeck, 2002). Being able to merely talk to colleagues about day-to-day issues and share experiences can help to minimize the stress that may come with teaching. This is even more important to teachers because their colleagues are able to understand the true nature of teaching. Teacher resilience is also fostered when teachers are able to be a part of some of the daily decision making for the school (Bobeck, 2002, Gu and Day 2013). Studies have shown that an overall sense of teamwork throughout the school fosters resilience in all teachers (Gu and Day, 2013).

The protective factor of care and support has been extensively researched. There are three main areas of research that focus on the support teachers receive on the job: administrative, colleague, and family and friends. Researchers suggest that if teachers take advantage of all available support and not be solely dependent upon a single source of support, then they will maximize their chance of staying in the profession (Schlichete, 2005). When administrators do not provide support, not only can teachers experience
feelings of humiliation and self-doubt, but it can also cause very severe cases of fear, stress, and anxiety (Blase and Blase, 2003). Having positive interactions and being connected with colleagues may increase the resiliency of teachers (Muller et al., 2011). Professional learning communities are designed to support teachers with resources, problem solving, and basic classroom practices (Yonezawa, Jones and Singer., 2011). Mentorship and peer collaboration have also been established in many educational settings in order to encourage camaraderie among teachers (Fisher, 2011). Researchers have described the presence of support in any relationship has the “glue” that holds everything together (Goodwin, 2005; Gu and Day, 2013).

Several studies have implications as to how schools can use the findings from research. Schools can organize strong and reliable whole-school behavior management strategies that will support teachers both in everyday and emergency situations, and leadership teams in all schools can make support of staff in both professional and personal issues a priority (Howard and Johnson; 2004; Cancio, Albrecht, and Johns, 2013).

When comparing the protective factors that are present for pre-service and novice teachers to those for experienced teachers, studies have shown that there are few differences. Pre-service and novice teachers have more of a desire to be socially connected with their peers and administrators as opposed to more experienced teachers (Muller et al., 2011; Gu and Day, 2013). Although research shows that many beginning teachers do not feel the necessary care and support from fellow teachers and administrators, those that do receive the social support are more resilient and positive
within their careers (Castro, 2010; Gu and Day, 2013). Some novice teachers even reported the lack of support when they had been assigned mentors.

Other studies suggest that having the ability to cope with job demands and managing emotions is one of the main ways pre-service teachers build resilience (Mansfield, 2012). The presence of emotional control is followed by a need for a more professional dimension that involves self-reflection and commitment to the job (Mansfield, 2012). Research shows clear differences in resilience among teachers at varying career stages. As pre-service teachers move towards the novice or early career, there is more emphasis on motivation and social interactions to help foster resilience (Mansfield, 2012). The resilience of a teacher and the protective factors that are present varies depending on the amount of time an individual has spent in the career.

Statement of the Problem

There has been extensive research on building resilience in classroom teachers. Studies have shown that teacher resilience is a process that is dependent upon a combination of protective factors: purpose and expectations, meaningful participation, increased social bonding, clear and consistent boundaries, teaching of life skills, care and support, and high expectations. Several of the said protective factors have also been heavily researched. Studies have also compared the presence of these protective factors in novice and experience teachers, and varying educational settings. Research supports the notion that the presence of these protective factors increases job satisfaction and resilience, but there is no research that compares protective factors across disciplines. Furthermore, there is no research that focuses on the comparison of protective factors in teachers in tested subject area and untested subject areas. There is also a lack of research
that compares the protective factors of teachers who completed traditional and alternative certification routes. Addressing these gaps in the literature can help to provide insight how the resilience process is fostered in science teachers.

Purpose Statement

Because there is minimum research on the comparison of protective factors in different settings, the first purpose of this study is to compare the protective factors of teachers across disciplines. Research has also failed to address how the protective factors of teachers vary among teachers in tested and non-tested subject areas. Therefore this study also seeks to determine whether there is a difference between the protective factors of teachers who teach tested subject areas and those who do not. In addition, this study will compare the protective factors of teachers who completed traditional and alternative route certification programs.

Research Objectives

This study is guided by the following research objectives:

- Are there statistically significant differences in the presence of protective factors of teachers across disciplines?
  - Is there a statistically significant difference in the presence of protective factors of teachers in tested and non-tested subject areas?
- Is there a statistically significant difference in the presence of protective factors of traditional and alternative certification route teachers?

Overview of Theoretical Framework

Some researchers define resilience as the capacity to successfully adapt to, or bounce back from, difficult events or situations (Muller et al., 2011). One of the early
studies of resilience took place in Kauai, Hawaii by Werner and Smith (1982). They studied children who, despite high levels of biological and psychosocial risk factors, were able to successfully cope.

Since the works of Werner and Smith (1982), many other researchers, Doney (2012) and Muller et al. (2011) for example, have helped to extensively develop the resiliency theory. The resilience framework is the idea that individuals can successfully cope with potential stress and adversity when there is a presence of protective factors (personal, social, familial, and institutional safety nets) (Doney, 2012). Protective factors are defined as constructs that help to make those involved stronger and better able to withstand adversity (Muller et al., 2011). Within each protective factor there are coping strategies that individuals use to successfully recover from a stressful situation, the coping strategies fall in three distinct categories (Doney, 2012). First, individuals can cope with a stressful situation by changing the source of the stress, but this method is least common. The second type of coping strategy is to control the meaning of the stress, and this is the most common. Individuals can control the meaning of the stress by making positive comparisons, ignoring parts of the situation, or reducing the relative importance of the risk factors. Lastly, individuals can cope by controlling the stress and not the situation through exercise, hobbies, or any other stress management activity (Doney, 2012). In reference to education, this study will focus on the protective factors that foster resilience in teachers and increasing the likelihood of retaining effective educators.
Delimitations

This study is delimited from kindergarten to twelfth grade school teachers. Only teachers who are full-time during the 2016-2017 school year will be selected to participate in this study. It did include pre-service teachers, assistant teachers, or administrators. It was also delimited to the teachers who choose to participate in the study.

Justification

Teacher retention has become a great problem in the educational community. According to Curtis (2012), 25% of public school teachers leave the profession within the first three years. The lack of teacher retention is a problem because it negatively affects students. Howard (2003) states many students do not have an opportunity to receive a quality education because there is a great shortage of qualified teachers. Also, educators face the difficulty of motivating students and encouraging them to value education when there is a struggle to retain teachers in the classroom (Howard, 2003). In order to minimize the negative impact on students, there needs to be a focus on the factors that help retain teachers in the classroom. Furthermore, recruiting and training new teachers can be expensive. According to the National Commission on Teaching and America’s Future, the cost of recruiting, hiring, and training new teachers is nearly $7 billion nationally.

Research has shown that more resilient teachers tend to stay in the profession. According to Muller (2011), teacher retention could increase if school conditions were helping to foster resilience among their teachers. Since research has shown that protective factors may vary from one setting to another, this study sought to provide
insight on the extent to which protective factors vary across disciplines and teacher education routes. Because this study shows differences in protective factors across disciplines and education routes, it gives administrators insight on the specific needs of their teachers. Once the specific needs are identified, administrators can structure the work environment in a way that fosters resilience for all teachers.

Assumptions

The assumptions of this study are that participants will thoroughly read each survey question and answer accurately. Also assumed was that the instrument being used was measuring resilience. Answers to the survey questions will be kept anonymous and confidential so participants can answer questions truthfully.

Definition of Terms

The following are definitions of terms that are used in this study.

- Attrition-a reduction in numbers usually as a result of resignation, retirement, or death.
- Protective factors- personal, social, familial, and institutional safety nets that help individuals resist stress and build resilience
- Resilience-the capacity to successfully adapt to, or bounce back from, difficult events or situations.
CHAPTER II – REVIEW OF RELATED LITERATURE

Introduction

Many studies have examined children who face adversity such as poverty, abuse, alcoholism, or mental illness. Even though they face extreme adversity, researchers have found that a third of these children become successful adults (Werner and Smith, 1982). The documentation of individuals who lived in adversity and developed into positive and fruitful adults brought more attention to resilience research. This change in the research caused more focus on fostering healthy children rather than the risk factors.

Researchers have found that a resilient child is one that has social competence, problem-solving skills, autonomy, and a sense of purpose and future (Bernard, 1993). Children who are social competent exude flexibility, empathy, and communication. Making critical decisions and thinking reflectively characterize problem solving. In addition, resilient children who are autonomous are able to self-identify and detach from environmental stressors. Last, sense of purpose encompasses having future goals and dreams. Later research suggested that these same principles can also be applied to adults and educators (Werner et al., 1986, Richardson, Neiger, Jensen, and Kumpfer, 1990, Howard et al., 2004).

There are also many studies that have examined the stress and adversity that educators face. Therefore, this study seeks to investigate the factors that foster resilience in educators. Instead of focusing on the adversities of teaching, this study will focus on the protective factors of teachers who persevere and stay in the profession. My particular perspective for this study is to compare protective factors among teachers in various
classroom settings. Thus, the resilience framework provided an appropriate lens to use when studying teacher retention.

Conceptual Framework

Some of the early research on human behavior tended to focus on the negative aspects of a person’s life. Oftentimes this approach gave way to health professionals believing that anyone exposed to adversity will have a negative outcome. Fortunately, researchers later began exploring the individuals who succeeded in life despite adversity. Investigating human behavior from this point of view gave life to the concept of resilience and the resilience framework. Resilience is the capacity to successfully adapt to, or bounce back from, difficult events or situations. It can help individuals cope with potential stress and adversity (Howard and Johnson, 2004; Muller et al., 2011; Richardson, Neiger, Jensen, and Kumpfer, 1990). The resilience conceptual framework can be applied to any facet of a person's life ranging from workplace, family, school, and community.

One of the first and most well-known studies of resilience and protective factors took place in Kauai, Hawaii by Werner and Smith (1982). This longitudinal study explored the concept of resilience from birth to midlife - ages 1, 2, 10, 18, 32, and 40. Participants in the study had a range of backgrounds, with some being from high poverty conditions and troubled families. At the completion of the longitudinal study, it was found that a third of the children who came from troubled and less advantaged backgrounds developed into successful adolescents and adults in school, home, and social environments. All of their life accomplishments were found to be equal or better than children who were the same age and grew up in more stable environments.
Therefore, researchers began to focus on children who, despite high levels of biological and psychosocial risk factors, were able to successfully cope with the use of protective factors when compared to other children exposed to the same risk factors. Protective factors are defined as constructs that help to make those involved stronger and better able to withstand adversity (Muller, 2011). Werner (1986) found that protective factors could be placed in three broad categories: individual, family, and community. Some individual protective factors noted in this study were being agreeable, cheerful, and having self-efficiency. Familial protective factors included having the opportunity to develop a positive relationship with at least one emotionally stable individual in their family. Also, community leaders, such as ministers, teachers, and neighbors, served as protective factors for the participants in this study.

In addition to the protective factors described above, there is a wide range of coping strategies that are used to get through difficult situations. Doney (2013) described the coping strategies in three categories. First, individuals can cope with a stressful situation by changing the source of the stress, but this method is less common. The second type of coping strategy is to control the meaning of the stress, and this is the most common. Individuals can control the meaning of the stress by making positive comparisons, ignoring parts of the situation, or reducing the relative importance of the risk factors. Lastly, individuals can cope by controlling the stress and not the situation through exercise, hobbies, or any other stress management activity.

At the conclusion of Werner and Smith’s longitudinal study, there was still little known on how resilience could be applied to prevention programs that are designed to improve healthy behaviors, and it was theoretically underdeveloped. Richardson et al.
Richardson et al. (1990) first recognized that resilience is a process of interaction between individuals and environmental circumstances. Their resilience model (Figure 1) depicts a single time in an individual’s life that caused a disruption. This disruption could be present for a few minutes to years. In order for the resilience model to work, individuals “must pass through challenges, stressors, and risks, become disorganized, reorganize his or her life, learn from the experiences, and surface stronger with more coping skills and protective factors (Richardson et al., 1990).”

![Figure 1. Resilience Model (Richardson, 1990)]
There are several key components of Richardson et al. (1990) resilience model: biopsychospiritual homeostasis, life events, biopsychospiritual protective factors, interaction, disruption, disorganization, and reintegration. Biopsychospiritual homeostasis encompasses a biological, psychological, and spiritual balance within an individual. “Life events” is a term used to describe the challenges, stressors, or risks that may cause a disruption. Biopspsychospiritual protective factors are constructs that help individuals successfully cope with stressful life events. Protective factors can be broken down into two categories: biological and psychospiritual. Biological coping factors range from maintaining a healthy medical condition to fitness level. In addition, psychospiritual coping factors include, but are not limited to, belief in a high force, good sense of humor, autonomy, and purpose in life. In order for an individual to have complete protection from life events, there must be successful interaction with the stress, challenge, or risk. Individuals may interact with the life event by exhibiting a variety of defense mechanisms (i.e. avoiding, ignoring, succumbing, etc.), and the way in which an individual copes with the life events will lead them to the disruption stage. The disruption stage happens when the individual is out of biopsychospiritual homeostasis. Richardson et al. (1990) suggests that disruption can be beneficial because it can be an opportunity to adapt, learn, and grow. After disruption, the next stage of the resilience process is disorganization. It is the “temporary state wherein the biopsychospiritual pieces of an individual’s life become disrupted, such as with a new challenge and the person has to implement a plan to attack the challenge without having previous related experiences.” This stage does not last long, and a person’s solution to the disorganization may be resilient or dysfunctional. Although dysfunctional solutions may result in suicide
or substance abuse, it is still considered a resolution to the disorganization. The last stage of the resilience process is reintegration. During this stage, the individual reorganizes their disorganized world in order to reach homeostasis again. Reintegration can happen in one of four ways: resilient reintegration, homeostatic reintegration, maladaptive reintegration, or dysfunctional reintegration. Resilient reintegration is the most desired level of adaptation. Individuals that take this route become more successful and have the skills to face future events more effectively. Homeostatic reintegration happens when there is a struggle to remain at the same level of functioning that was present prior to the life event. This person does not learn from the experience and will likely repeat past situations. With maladaptive reintegration, individuals reorganize their lives in such a way that their present protective factors and skills are far less than their starting point. The last type of reintegration, dysfunctional reintegration, results in the need for psychotherapy help for the individual. Therefore, protective factors play a crucial role in fostering resilience in an individual.

The extensive study of Werner and Smith (1982) caused other researchers to also begin focusing less on the risks and adversities individuals face and more on the protective factors that help with coping and succeeding. Fraser, Richman, and Galinsky (1999) describe protective factors as constructs that help to modify and reduce the presence of adversity. They, too, suggest that protective factors are found within the individual, families, and communities.

Fraser et al. (1999) described protective factors as having compensatory and buffering protective effects. With compensatory protective effects, it does not affect the risk but instead have an effect on the problem. For instance, if a person were suffering
from depression caused by long-term poverty, the protective factors would have a direct
effect on the depression instead of tackling the poverty. Protective factors that act as a
buffering effect have a greater interaction in individuals where a risk is present. This
does not imply that protective factors do not have a positive influence on individuals with
low risk; however, the interaction is stronger when the risk is higher.

Since the conclusion of Werner and Smith’s (1982) longitudinal study on
resilience and the development of Richardson’s (1990) resilience model, there have been
many similar studies, and there have also been studies that examined the theoretical
assumptions proposed by the resilience theory. Greene, Galambos, and Lee (2003)
conducted this type of study. This study sought to test the established assumptions of the
resilience theory through qualitative research design. The purpose of the study was to
better understand what conditions professionals thought act as buffers to life stress, and
contribute to coping and resilience. The participants in this study were 18 health-related
practitioners whose careers included social work, personal training, resident counseling,
clinical psychology, ministry, and physical therapy. There were three main findings.
The first finding indicated a presence of internal factors related to resilience, specifically
a person’s attitude. In addition to a positive attitude contributing to the resilience of
individuals, spirituality was also found to be a meaningful internal factor. External
factors were also related to resilience. Those external factors included connections to
family, school, and community. The last emerging theme was the presence of strategies
to enhance client resilience. This theme centered on being aware of the adversity, and
finding a solution to get through the problem. Greene et al (2003) study supported the
assumption that a presence of protective factors, both internally and externally, help to successfully cope with adversity.

Resilience in Teachers

Most of the early research on resilience focused primarily on children and adolescents. Richardson et al. (1990) began making strides to give structure to the resilience theory and make it applicable to adults. Also, by the conclusion of Werner and Smith’s longitudinal study in 1992, there were a host of internal and environmental protective factors that had been found to help foster resilience in adults. Internal protective factors included, but were not limited to, the use of life skills, flexibility, and self-motivation. Families, schools, communities, and peer groups that foster resilience included these environmental protective factors or characteristics: sets and enforces clear boundaries, encourages supportive relationships, promotes sharing of responsibilities.

After the literature turned to studying resilience in adults, a host of researchers began to investigate resilience in classroom teachers in various settings and develop a wide range of protective factors used by teachers. One such study explored the experiences of teachers who were coping under highly stressful conditions in very disadvantaged Australian schools to see whether the concept of resilience was applicable and whether teachers draw from the same protective factors that have been identified in the literature on child and adolescent resilience (Howard and Johnson, 2004). Richardson’s resilience model (1990) assumes that in order for a person to become more resilient, there must first be a set of stressors present. Howard and Johnson (2004) were able to find many stressors faced by teachers, both inside and outside of the classroom. Unmotivated and non-compliant students, violence among students, workload, and
difficult relationship with colleagues were some of the stressors found in this study. The conceptual conclusions were that teachers used a sense of agency, a strong support group, pride in achievements and competence in areas or personal importance as protective factors. Teachers who showed a strong sense of agency believed they had the ability to control what happens to them. Also, being able to control their reactions to issues at work and not take anything personal helped to foster resilience.

Taylor (2013) examined the perspectives of African American female teachers related to their teaching experiences and the characteristics of resilience that influenced their retention in education in a rural community before, during, and after desegregation in the South. The themes that emerged to describe the resilient teachers in this study were religion and morals, flexible locus of control, optimism, autonomy, commitment, enjoy change, positive relationships, and views education as important. Efficacy was an additional theme that emerged outside of the established resilience theory. Teachers described efficacy as the beliefs held about their professional competence, self-confidence, and both moral and social purpose to serve as up-lifters. They held these beliefs despite the backlash from parents, teachers, and administrators.

Another research team, Yonezawa, Jones and Singer (2011) examined how connections to a network of fellow educators known as the National Writing Project (NWP) helped develop teachers into durable and reflective practitioners. Six educators in urban-high poverty schools served as the participants in this study. Case studies were the main data source used to determine if the NWP contributed to the resiliency of teachers within the teaching profession and teachers in hard-to-staff- urban schools.

There were three themes that emerged from the data collected. First, an
association with NWP played an important role in shaping teachers’ experience as educators. If teachers had not been connected with the writing project, they would have left the profession. Secondly, the Writing Project helped teachers to develop technical information that is used in the classroom. Many teachers discussed how the program taught them how to more effectively teach writing. Also, teachers who felt more competent in their subject matter were more likely to stay committed to their careers. Lastly, the NWP encouraged a sense of community among teachers that were sometimes strained within the school by race, gender, and politics. Professional learning communities are now designed to support teachers with resources, problem-solving, and basic classroom practices. Teachers are able to develop a sense professional resilience when they are affiliated with professional learning communities.

There were also studies that investigated how years of experience affects resilience (Doney, 2013; Jones, Youngs, and Frank, 2013). The purpose of Doney’s (2013) research was to examine the resilience building process in four novice secondary science teachers in order to understand how and why some novice science teachers remained in the profession while others choose to leave. The resilience theory and relational culture theory were the frameworks used in this study. Four high school science teachers were interviewed to answer two research questions. The research questions were: (1) How is resilience developed in novice secondary science teachers and (2) How does resilience affect novice teacher retention? Data were collected using six interviews, written prompt response, classroom observations, relational maps created by the participants, and work shadowing.
The conceptual conclusions were that stress and protective factors work together to build the resiliency of teachers, which supports Richardson’s (1990) resilience model. However, resiliency is not an innate characteristic, but it is a result of internal and external process. Furthermore, a teacher’s resiliency depends heavily upon the nature of the work environment, the people with whom a teacher works, and beliefs or aspirations. This study suggests that novice teachers should be made aware of the resiliency process and given access to support systems that will serve as protective factors in order to increase teacher retention.

Jones et al. (2013) sought to examine the degree to which instructional support from colleagues, perceived fit, and perceptions of school responsibility is associated with higher levels of commitment. For each association, they also investigated whether this association is stronger for special education teachers. The sample for this study included 185 teachers of which 47 were special education teachers and 138 were general education teachers. The main data source was questionnaires.

The main findings were that when teachers feel connected to the professional community of the school, they are more likely to benefit from the collaboration with colleagues. However, special education teachers do not have access to these resources as opposed to general education teachers. Also, there was a greater correlation between collective responsibility and commitment to the school in special education teachers than general education teachers. This suggests that all teachers should have a clear set of job responsibilities to help minimize role ambiguity and promote support among teachers. If a clear set of job responsibilities is not established among teachers, it risks teachers having a decreased level of commitment to their careers.
After reviewing the literature on resilience in adults, Henderson and Milstein (2003) found six consistent themes on protective factors that foster resilience, and it could be applied to schools, families, and communities. The six themes were: increase prosocial bonding, set clear, consistent boundaries, teaching “life skills”, provide caring and support, set and communicate high expectation, and provide opportunities for meaningful participation. From the emerging themes, the Henderson & Milstein created the resilience wheel.

From these themes, Henderson and Milstein also constructed a profile of an educator needing resiliency improvement. There were specific characteristics within each protective factor. A person who is not receiving clear, consistent boundaries is confused about the expectations and thinks rules are meaningless. When there is a lack of life skills, educators display inappropriate behavior and have difficulty with assertiveness, conflict resolution, decision-making, and stress management. An educator who does not receive the necessary care and support may have feelings of alienation from school and receives no positive recognition. The protective factor of setting and communicating high expectations help to minimize the presence of low self-confidence and the expression of personal limitations among educators. The lack of opportunities for meaningful participation causes educators to not recognize personal talents and be a passive recipient and apathetic. Lastly, not having adequate social bonding causes educators to avoid participation in cooperative peer interactions and become isolated from positive adults and peers.
Henderson and Milstein also created a profile of an educator with characteristics of resilience, which are detailed in table 1. Also, the six equal sections of the resilience wheel suggest that each protective factor contributes equally to helping build resilience.

Table 1

*Henderson and Milstein (2003): Profile of a resilient teacher*

<table>
<thead>
<tr>
<th>Themes</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase Prosocial Bonding</td>
<td>● Seeks regular opportunities to interact with others</td>
</tr>
<tr>
<td></td>
<td>● Is able to interact easily with others, regardless of status differences</td>
</tr>
<tr>
<td></td>
<td>● Engages in cooperative efforts</td>
</tr>
<tr>
<td>Set Clear, Consistent Boundaries</td>
<td>● Understands and accepts policies</td>
</tr>
<tr>
<td></td>
<td>● Involved in developing and changing policies and rules</td>
</tr>
<tr>
<td>Teach “Life Skills”</td>
<td>● Participates in meaningful professional development</td>
</tr>
<tr>
<td></td>
<td>● Has high self-esteem that is supported by adult learning opportunities</td>
</tr>
<tr>
<td></td>
<td>● Gives help to and receives help from other educator</td>
</tr>
<tr>
<td>Provide Caring &amp; Support</td>
<td>● Has a sense of belonging</td>
</tr>
<tr>
<td></td>
<td>● Thinks that community supports educators’ activities</td>
</tr>
<tr>
<td></td>
<td>● Believes reward systems promote individual efforts</td>
</tr>
<tr>
<td>Set and Communicate High Expectation</td>
<td>● Shows confidence in self’s and others’ potential for excellence</td>
</tr>
<tr>
<td></td>
<td>● Feels that role efforts are appreciated</td>
</tr>
<tr>
<td></td>
<td>● Feels protected by leaders to perform job expectations</td>
</tr>
</tbody>
</table>
The research efforts of Richardson et al. (1990) and Henderson and Milstein (2003) helped the resilience theory to become well developed and applicable to teachers. Muller et al. (2011) examined the theoretical assumptions of Henderson and Milstein (2003). The purpose of their study was to examine the importance of the six protective factors identified by Henderson and Milstein (2003) in establishing resilience within individuals among a sample population of pre-service teachers and public school teachers. The instrument used in this study was designed to measure the six protective factors most strongly associated with resiliency: purpose and expectations, nurture and support, positive connections, meaningful participation, life guiding skills, and clear and consistent boundaries. Initially, a 34-item questionnaire with a Likert scale was the data source used in this study and, participants consisted of 339 educators which included teacher candidates, new teachers, experienced teachers, and veteran teachers. Upon testing the questionnaire’s reliability, the researchers retained 22 survey items and 250 participants.

Although previously thought to all equally contribute to an individual's resilience, Muller et al. (2011) found that each protective factor is domain specific and may contribute unequally. However, the data support the assumption that having positive

| Provide Opportunities for Meaningful Participation | • Values site-based management as a way of ensuring teacher input in decision making  
| | • Takes the time and gains the skills needed to participate effectively  
| | • Knows what’s going on and joins in celebrations |

Table 1 continued
interactions and being connected with colleagues will have a greater increase the 
resiliency of teachers. Their findings also supported the assumption that family, school, 
and environment collectively contribute to resilience. In regards to teacher resiliency, it 
is still unclear whether the support of family and friends is more influential than the 
support of co-workers and administrators.

When comparing the years or experience among teachers, Muller et al. (2011) 
only found differences in the positive connections and clear and consistent boundaries. 
Pre-service teachers scored higher in these domains. Lastly, there were gender 
differences found in the purpose and expectations domain with females scoring higher 
than men.

Another study investigated the importance of resilience in teachers’ work (Gu and 
Day, 2013). More specifically, it focused on ways in which a teacher’s perceived 
resilience was influenced by their educational values and the conditions of work and 
home. The primary data source for this study was semi-structured face-to-face interviews. 
There were 300 teachers that served as participants for this study. Researchers used 
phenomenology methodology in which they tried to describe the experiences of the 
participants and the ways the participants interpret and construct meaning of their 
experience.

There were several themes that emerged from the findings. First, teachers 
reported that they all had an intrinsic motivation and emotional commitment to teach. 
The second theme was they had opportunities to learn and develop together as teachers. 
In addition, in order for teachers to develop resiliency there must be a strong foundation 
in school leadership.
Bobeck (2002) investigated how teacher resiliency can lead to longevity in the classroom and the career. This study supports the notion that significant adult relationships, a sense of personal responsibility, social and problem-solving skills, sense of competence, expectations and goals, confidence, a sense of humor, and a sense of accomplishment are all characteristics of individuals who are resilient. The researcher suggests that teachers to recognize and utilize the resources available that help to build resilience. Also, it is recommended that there should be open communication among fellow teachers, administrators, and parents in order to foster resiliency and retain teachers for long term.

Rationale for the study

Resilient individuals have the ability to successfully adapt despite challenging or threatening circumstances (Howard, 2004). In reference to education, there are teachers who are successful in their profession despite any work related adversities, and they are considered to be more resilient than those that may leave the profession. Therefore, it is important to focus on the traits that some teachers possess that help them to carry on even when faced with the adversities of teaching.

As discussed, the resiliency framework focuses on the strengths of individuals rather than the stress and adversity they are experiencing. So, instead of focusing on the factors that influence teacher to leave the profession, this study will focus on the protective factors of teachers who persevere. According to Muller (2011), teacher retention could increase if school conditions fostered resilience among their teachers. Furthermore, if teachers are aware of how the resiliency process works, it will increase the likelihood of retaining effective teachers.
There have been several studies on teacher resilience; however, there are still gaps in the literature. Henderson and Milstein (2003) and Muller et al. (2011) described six protective factors that are important in maintaining resiliency in teachers. Those protective factors or strengths are purpose and expectations, nurture and support, positive connections, meaningful participation, life guiding skills, and clear and consistent boundaries. The perspective for this study is to determine how the protective factors described by Henderson and Milstein (2003) and Muller et al. (2011) compare across disciplines, tested and non-tested areas, and traditional and alternative certification teachers.

Summary

The purpose of this study was to compare the protective factors of teachers in various fields: discipline, tested and non-tested subject area, and tradition and alternative teacher certification routes. The Resiliency Questionnaire (Muller et al. 2011) was used as a data source. In order to adequately answer the research questions, additional demographic questions, such as discipline and certification route, was added to the research instrument.
CHAPTER III - METHODOLOGY

Introduction

The purpose of this study was to compare the protective factors of teachers in various fields: discipline, tested and non-tested subject areas, and teacher certification route. This chapter describes of the research design, participants, instrument, procedure, and data analysis.

Research Design

A quantitative research design was used to address the following research questions:

- Are there statistically significant differences in the protective factors of teachers across disciplines?
  - Is there a statistically significant difference in the protective factors of teachers in tested and non-tested subject areas?
- Is there a statistically significant difference in the protective factors of traditional and alternative certification route teachers?

These questions were answered using the following independent and dependent variables. The independent variables were discipline, presence of an end-of-the-year state mandated test, and teacher certification route. The dependent variables were the protective factors: purpose and expectation, nurture and support, positive connections, meaningful participation, life-guiding skills, and clear and consistent boundaries. The Resiliency Questionnaire was used to measure the degree of protective factors in various teaching fields.
Participants

In the educational community 25% of kindergarten to twelfth grade teachers leave the profession within the first three years. Because the goal of this study was to gather data concerning the protective factors of teachers, the participants consisted of 161 kindergarten to twelfth grade teachers who were full-time during the 2016-2017 school year. Seven professors and instructors who supervised student teachers at a southern research institution granted permission to recruit their former students who were currently teaching. The instructors were sent a link via email, and they distributed to former students through email in order to recruit them as participants. Also, 19 school superintendents in the state of Mississippi granted permission to recruit the teachers in their district to participant in this study. Superintendents were sent a link via email, and they forwarded the link to teachers in their districts through email. All participants were over 18 years of age, so therefore parent/guardian permission was not necessary.

Instrument

Data were obtained by using the 36-item questionnaire created by Muller et al. (2014). Permission was given to use this instrument for purposes of this study. This instrument has undergone several modifications to increase reliability and validity. Muller et al. (2011) conducted a pilot study with the resilience instrument containing 34 items. Twelve items were removed from the instrument after the authors and panel of experts analyzed the results of the pilot study. The remaining 22 items were used in Muller et al. (2011) research study on teacher resilience. After further modifications to the questionnaire, it resulted in the 36-item instrument used in Muller et al. (2014), and the questionnaire that was used for this study. It uses a five point Likert scale from which
participants will choose their answers. Answer choices were selected from strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). This instrument measured the degree to which each of the six protective factors defined by Henderson and Milstein (1996) is present. The six protective factors that were examined on the questionnaire are: purpose and expectation (PE), nurture and support (NS), positive connections (PC), meaningful participation (MP), life guiding skills (LGS), and clear and consistent boundaries (CCB). There were six items for each protective factor.

Questions 1, 7, 13, 19, 25, and 31 measured nurture and support; questions 2, 8, 14, 20, 26, and 32 measured purpose and expectation; questions 3, 9, 15, 21, 27, and 33 measured positive connections; questions 4, 10, 16, 22, 28, and 34 measured clear and consistent boundaries; questions 5, 11, 17, 23, 29, and 35 measured meaningful participation; questions 6, 12, 18, 24, 30, and 36 measured life guiding skills. The questions used to assess resilience are:

1. My family and/or friends support my endeavors.
2. I have clear expectations of myself.
3. I share a common set of values with the people in my life.
4. My behaviors are influenced by cultural norms.
5. I contribute to the greater good of humanity.
6. I effectively apply life-skills to assist with day-to-day demands.
7. My colleagues encourage my efforts.
8. I am motivated to achieve my goals.
9. My interaction with others provides me with a sense of belonging.
10. My life is guided by clear expectations.
11. I am an active participant in my community.

12. I strive to acquire life-skills necessary to succeed.

13. I am supportive of my colleagues.

14. I strive to fulfill my life’s purpose.

15. My interaction with others fails to provide me with a sense of belonging.

16. I meet others expectations with my actions.

17. My contributions make a positive impact.

18. I utilize problem-solving skills.

19. The people in my life fail to support my efforts.

20. My priorities are well defined.

21. I am connected to those around me.

22. Others’ expectations for me are constant.

23. I fail to contribute to life in a meaningful way.

24. I lack those life-skills that I need to thrive.

25. I encourage my family and/or friends.

26. I lack the motivation required to achieve my goals.

27. I am comfortable in the presence of my colleagues.

28. I have a clear understanding of the policies established to direct my work.

29. I utilize my talents in a meaningful way.

30. I communicate effectively to navigate life’s twists and turns.

31. The people in my life promote my success.

32. I am driven to meet my expectations.

33. I enjoy being around others.
34. The expectations placed on me by others are often unclear.
35. I recruit participants for volunteer activities.
36. I adapt to meet life’s challenges.

A pilot study was also conducted using the most updated questionnaire to check for reliability of each subscale. Cronbach’s alphas for the five subscales were calculated to determine the internal consistency. The reliability coefficients for each subscale were as follows: purpose and expectation ($\alpha = .748$), nurture and support ($\alpha = .767$), positive connections ($\alpha = .806$), meaningful participation ($\alpha = .749$), life guiding skills ($\alpha = .749$), and clear and consistent boundaries ($\alpha = .748$).

Procedure

The researcher first obtained approval of the Institutional Review Board at The University of Southern Mississippi. Once approval had been granted, the researcher contacted superintendents, instructors, and professors by email had given permission to recruit their former students who were currently teaching. These individuals were sent a link to their email, and they distributed the link to teachers through email in order to recruit them as participants. Once participants clicked the emailed link, they were directed to a page detailing the study through the long consent form. The informed consent explained the following details: purpose of the study, time it would take to complete the questionnaire, researcher’s contact information, a statement saying the IRB had approved the study, and that participation was voluntary and participants could end their participation at any time. The questionnaire should have taken less than 30 minutes to complete. The responses were recorded through an online survey tool to increase anonymity, and teachers were not required to provide any identifying information such as
name or school district to increase confidentiality. All results were gathered through Qualtrics and password protected.

Data analysis

A multivariate analysis of variance (MANOVA) test was used to analyze the differences in protective factors based on discipline, tested and non-tested subjects, and teacher education route. Because there were multiple dependent variables, a MANOVA examined the relationship among the independent variables and the six protective factors subscales collectively. The univariate analysis of the MANOVA was used to examine the relationship among the independent variables and the six protective factors subscales separately.
CHAPTER IV – RESULTS

The purpose of this study was to compare the protective factors of teachers in various fields: discipline, tested and non-tested subject areas, and teacher certification route. Data were gathered from online questionnaires given to teachers in 19 school districts in the state of Mississippi, and there were a total 161 responses to the online questionnaire. Each participant’s response was included in the quantitative analyses. The results of this study were used to determine whether a difference in the protective factors nurture and support, purpose and expectations, positive connections, clear and consistent boundaries, meaningful participation, and life guiding skills based on subject area, tested and non-tested subject areas, and teacher certification route.

Cronbach’s alphas for the five subscales were calculated to determine the internal consistency. The reliability coefficients for each subscale were as follows: purpose and expectation \( (\alpha = .790) \), nurture and support \( (\alpha = .745) \), positive connections \( (\alpha = .728) \), meaningful participation \( (\alpha = .700) \), life guiding skills \( (\alpha = .715) \), and clear and consistent boundaries \( (\alpha = .720) \).

Descriptive Statistics

Subject area. The participant pool was analyzed by specifying the subject area for each teacher. Subject areas were divided into six groups: mathematics, science, English, history, technology, elective (art, physical education, foreign language, etc.) As noted in Table 2, 27 (16.8%) of the respondents were mathematics teachers, 31 (19.3%) of the participants taught primarily science, English teachers accounted for 42 (26.1%),
43 (26.7%) taught elective classes, and both history and technology had 9 (5.6%) participants each.

Table 2

*Frequency Data by Subject Area*

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>n</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>27</td>
<td>16.80%</td>
</tr>
<tr>
<td>Science</td>
<td>31</td>
<td>19.30%</td>
</tr>
<tr>
<td>English</td>
<td>42</td>
<td>26.10%</td>
</tr>
<tr>
<td>History</td>
<td>9</td>
<td>5.60%</td>
</tr>
<tr>
<td>Technology</td>
<td>9</td>
<td>5.60%</td>
</tr>
<tr>
<td>Electives</td>
<td>43</td>
<td>26.70%</td>
</tr>
</tbody>
</table>

Tested and non-tested subject areas. The participant pool was analyzed by specifying whether their current subject area was tested or non-tested. Table 3 shows there were 67 (41.6%) respondents whose primary teaching subject area was tested, and 94 (58.4%) were in non-tested subject areas.

Table 3

*Frequency Data by Tested and Non-Tested Subject Areas*

<table>
<thead>
<tr>
<th>Tested or Non-Tested Areas</th>
<th>n</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>67</td>
<td>41.60%</td>
</tr>
<tr>
<td>Non-tested</td>
<td>94</td>
<td>58.40%</td>
</tr>
</tbody>
</table>
Teacher education route. The participant pool was analyzed by specifying the education route for each teacher. The two possible responses were traditional and alternate route. Table 4 shows there were 117 (72.7%) of the respondents participated in the traditional teacher education route, while 44 (27.3%) became certified via the alternate route.

Table 4

<table>
<thead>
<tr>
<th>Education Route</th>
<th>n</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>117</td>
<td>72.70%</td>
</tr>
<tr>
<td>Alternative</td>
<td>44</td>
<td>27.30%</td>
</tr>
</tbody>
</table>

Findings

The study utilized multivariate analysis of variance (MANOVA) test to analyze the differences in protective factors based on multiple independent variables. The univariate analysis of the MANOVA was used to examine the relationship among the independent variables and the six protective factors subscales separately. The following research questions were used to review and analyze the data.

- Are there statistically significant differences in the protective factors of teachers across disciplines?
  - Is there a statistically significant difference in the protective factors of teachers in tested and non-tested subject areas?
- Is there a statistically significant difference in the protective factors of traditional and alternative certification route teachers?
Table 5 shows the results of the MANOVA that examined the relationship among the independent variables and the six protective factors subscales collectively. There were significant differences in the protective factors of teachers across discipline when all dependent variables were considered collectively, F(30, 538) = 1.47, p = .05.

Table 5

**MANOVA results for all protective factors based on each independent variable**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>df</th>
<th>df error</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discipline</td>
<td>30.00</td>
<td>538.00</td>
<td>1.47</td>
<td>0.05</td>
</tr>
<tr>
<td>Tested or Non-tested Areas</td>
<td>6.00</td>
<td>134.00</td>
<td>0.83</td>
<td>0.55</td>
</tr>
<tr>
<td>Education Route</td>
<td>6.00</td>
<td>134.00</td>
<td>1.33</td>
<td>0.25</td>
</tr>
</tbody>
</table>

The univariate analysis of the MANOVA was used for each dependent variable, shown in table 6. Each univariate analysis was evaluated at an alpha level of 0.05. There were significant differences among teaching disciplines on nurture and support, F(5,139) = 3.153, p =.01. There were significant differences among teaching discipline on purpose and expectation, F(5,139) = 4.446, p = .001. There were significant differences among teaching discipline on life guiding skills, F(5,139) = 2.442, p = .037. There were not significant differences among teaching disciplines on positive connections, F(5,139) = .43, p = .83. There were not significant differences among teaching disciplines on meaningful participation, F(5,139) =1.57, p = .17. There were not a significant differences among teaching disciplines on clear and consistent boundaries, F(5,139) = 1.29, p =.27.
Table 6

*Univariate analysis of each protective factor across discipline*

<table>
<thead>
<tr>
<th>Protection Factor</th>
<th>df</th>
<th>df error</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurture and Support</td>
<td>5.00</td>
<td>139.00</td>
<td>3.15</td>
<td>0.01</td>
</tr>
<tr>
<td>Purpose and Expectation</td>
<td>5.00</td>
<td>139.00</td>
<td>4.45</td>
<td>0.00</td>
</tr>
<tr>
<td>Positive Connections</td>
<td>5.00</td>
<td>139.00</td>
<td>0.43</td>
<td>0.83</td>
</tr>
<tr>
<td>Meaningful Participation</td>
<td>5.00</td>
<td>139.00</td>
<td>1.57</td>
<td>0.17</td>
</tr>
<tr>
<td>Life Guiding Skills</td>
<td>5.00</td>
<td>139.00</td>
<td>2.44</td>
<td>0.04</td>
</tr>
<tr>
<td>Clear and Consistent Boundaries</td>
<td>5.00</td>
<td>139.00</td>
<td>1.29</td>
<td>0.27</td>
</tr>
</tbody>
</table>

The data were also examined to find where the differences lie among teaching disciplines. There were differences in nurture and support among the following disciplines: Math and History, Science and History, English and History, and Electives and History. There were differences in purpose and expectation among the following disciplines: science and history, and science and electives. There were differences in life guiding skills between science and history disciplines. These data are shown in table 7.
Table 7

Differences among teaching disciplines

<table>
<thead>
<tr>
<th>Discipline</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurture and Support</td>
<td></td>
</tr>
<tr>
<td>Math vs History</td>
<td>0.016</td>
</tr>
<tr>
<td>Science vs History</td>
<td>0.016</td>
</tr>
<tr>
<td>English vs History</td>
<td>0.011</td>
</tr>
<tr>
<td>Electives vs History</td>
<td>0.019</td>
</tr>
<tr>
<td>Purpose and Expectation</td>
<td></td>
</tr>
<tr>
<td>Science vs History</td>
<td>0.044</td>
</tr>
<tr>
<td>Science vs Electives</td>
<td>0.021</td>
</tr>
<tr>
<td>Life Guiding Skills</td>
<td></td>
</tr>
<tr>
<td>Science vs History</td>
<td>0.05</td>
</tr>
</tbody>
</table>

There was not a significant difference in the protective factors of teachers in tested and non-tested subject areas when all dependent variables were considered collectively, F(6, 134) = .833, p = .55. The univariate analysis for the MANOVA was examined for each dependent variable, shown in table 8. The univariate analysis was evaluated at an alpha level of 0.05. There was not a significant difference when considering nurture and support, F(1,139) = 2.68, p = .10. There was not a significant difference between tested and non-tested areas on purpose and expectation, F(1,139) = 3.35, p = .07. There was not a significant difference between tested and non-tested areas on positive connection, F(1,139) = .39, p = .54. There was not a significant difference between tested and non-tested areas on meaningful participation, F(1,139) = 2.69, p =
There was not a significant difference between tested and non-tested areas on life guiding skills, F(1, 139) = 1.09, p = .30. There was not a significant difference between tested and non-tested areas on clear and consistent boundaries, F(1, 139) = .05, p = .82.

Table 8

<table>
<thead>
<tr>
<th>Univariate analysis of each protective factor across test and non-tested areas</th>
<th>df</th>
<th>df error</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurture and Support</td>
<td>1.00</td>
<td>139.00</td>
<td>2.68</td>
<td>0.10</td>
</tr>
<tr>
<td>Purpose and Expectation</td>
<td>1.00</td>
<td>139.00</td>
<td>3.35</td>
<td>0.07</td>
</tr>
<tr>
<td>Positive Connections</td>
<td>1.00</td>
<td>139.00</td>
<td>0.39</td>
<td>0.54</td>
</tr>
<tr>
<td>Meaningful</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>1.00</td>
<td>139.00</td>
<td>2.69</td>
<td>0.10</td>
</tr>
<tr>
<td>Life Guiding Skills</td>
<td>1.00</td>
<td>139.00</td>
<td>1.09</td>
<td>0.30</td>
</tr>
<tr>
<td>Clear and Consistent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boundaries</td>
<td>1.00</td>
<td>139.00</td>
<td>0.05</td>
<td>0.82</td>
</tr>
</tbody>
</table>

There was not a significant difference in the protective factors of traditional and alternative certification route teachers when all dependent variables were considered collectively, F(6, 134) = 1.33, p = .25. The univariate analysis of the MANOVA was used to examine each dependent variable, shown in table 9. Each univariate analysis was evaluated at an alpha level of 0.05. There was a significant difference between traditional and alternative certification route teachers on nurture and support, F(1, 139) = 4.495, p = .04. There was not a significant difference between traditional and alternative
certification teachers on purpose and expectation, $F(1,139) = .58, p = .45$. There was not a significant difference between traditional and alternative certification teachers on positive connections, $F(1,139) = 0.98, p = .33$. There was not a significant difference between traditional and alternative certification teachers on meaningful participation, $F(1,139) = .03, p = .88$. There was not a significant difference between traditional and alternative certification teachers on life guiding skills, $F(1,139) = .67, p = .42$. There was not a significant difference between traditional and alternative certification teachers on clear and consistent boundaries, $F(1,139) = 3.04, p = .08$.

Table 9

*Univariate analysis of each protective factor for traditional and alternative education routes*

<table>
<thead>
<tr>
<th>Protection Factor</th>
<th>df</th>
<th>df error</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurture and Support</td>
<td>1.00</td>
<td>139.00</td>
<td>4.50</td>
<td>0.04</td>
</tr>
<tr>
<td>Purpose and Expectation</td>
<td>1.00</td>
<td>139.00</td>
<td>0.58</td>
<td>0.45</td>
</tr>
<tr>
<td>Positive Connections</td>
<td>1.00</td>
<td>139.00</td>
<td>0.98</td>
<td>0.33</td>
</tr>
<tr>
<td>Meaningful Participation</td>
<td>1.00</td>
<td>139.00</td>
<td>0.03</td>
<td>0.88</td>
</tr>
<tr>
<td>Life Guiding Skills</td>
<td>1.00</td>
<td>139.00</td>
<td>0.67</td>
<td>0.42</td>
</tr>
<tr>
<td>Clear and Consistent Boundaries</td>
<td>1.00</td>
<td>139.00</td>
<td>3.04</td>
<td>0.08</td>
</tr>
</tbody>
</table>
When examining the interactions of the independent variables, the data show there were significant differences only in the interaction of subject area and education route when the dependent variables were considered collectively, $F(30, 538) = 1.99$, $p = .002$. These data are shown in table 10.

Table 10

*Interaction effect of subject area and education route*

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>df error</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject area * Education route</td>
<td>30.00</td>
<td>538.00</td>
<td>1.99</td>
<td>0.002</td>
</tr>
</tbody>
</table>

The interaction of subject area and education route on each protective factor subscale is shown in table 11. The data show there were significant differences in the area of nurture and support, $F(5, 139) = 3.07$, $p = .012$.

The data show there were significant differences in the area of purpose and expectation, $F(5, 139) = 4.70$, $p = .001$.

The data show there were significant differences in the area of meaningful participation, $F(5, 139) = .026$, $p = .012$.

The data show there were significant differences in the area of life guiding skills, $F(5, 139) = 2.89$, $p = .016$. 
Table 11

*Interaction of subject area and education route on each protective factor*

<table>
<thead>
<tr>
<th>Protective Factors</th>
<th>df</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subject area * Education route</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurture and Support</td>
<td>5</td>
<td>3.07</td>
<td>0.012</td>
</tr>
<tr>
<td>Purpose and Expectation</td>
<td>5</td>
<td>4.7</td>
<td>0.001</td>
</tr>
<tr>
<td>Positive Connections</td>
<td>5</td>
<td>0.772</td>
<td>0.572</td>
</tr>
<tr>
<td>Meaningful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>5</td>
<td>2.65</td>
<td>0.026</td>
</tr>
<tr>
<td>Life Guiding Skills</td>
<td>5</td>
<td>2.89</td>
<td>0.016</td>
</tr>
<tr>
<td>Clear and Consistent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boundaries</td>
<td>5</td>
<td>1.56</td>
<td>0.176</td>
</tr>
</tbody>
</table>
CHAPTER V – DISCUSSION

This study was guided by the lack research on the comparison of protective factors in different settings. Because of the minimum research available, the first purpose of this study was to compare the protective factors of teachers across discipline. Research has also failed to address how the protective factors of teachers vary among teachers in tested and non-tested subject areas. Therefore, this study also sought to determine whether there is a difference between the protective factors of teachers who teach tested subject areas and those who do not. In addition, this study compared the protective factors of teachers who completed traditional and alternative route certification programs.

Summary

This study sought to answer questions about how varying circumstances affects protective factors in teachers. Specifically, the research questions focus on how protective factors are influenced by teaching discipline, tested and non-tested subject area, and teacher certification route. The protective factors investigated were nurture and support, purpose and expectation, meaningful participation, life guiding skills, and clear and consistent boundaries. The quantitative analysis, MANOVA, was used to examine the relationship among the independent variables and the six protective factors subscales collectively. These statistics revealed preliminary information that each independent variable does not have a significant effect on the protective factors as a whole. Because the statistics revealed that there were no differences among the independent variable groups, follow-up statistics were conducted. The univariate analysis of the MANOVA was also conducted to examine the relationship among the independent variables and the
six protective factor subscales separately. Here the data show that there are differences in among certain independent variables on several of the protective factor subscales.

The sample for this study was 161 kindergarten to twelfth grade teachers who were full-time teachers during the 2016-2017 school year. Emails were sent out to 19 school superintendents in the state of Mississippi.

Discussion of Major Findings

Statistical analysis of the protective factors of teachers across discipline area when all dependent variables were considered collectively indicated significant differences among teachers in mathematics, science, English, history, technology, and electives. The follow-up statistics on each protective factor across disciplines did show a significant difference in three of the six protective factors subscales. There was a significant difference in nurture and support, purpose and expectation, and life guiding skills. There was not a significant difference in positive connections, meaningful participation, or clear and consistent boundaries. This can be interpreted as there being differences among teachers across disciplines when investigating the presence of nurture and support, purpose and expectation, and life guiding skills.

Since differences were found among teaching disciplines in the areas of nurture and support, purpose and expectation, and life guiding skills, further statistical analyses were conducted to find where the differences lie. The data showed that there were differences between history and math, history and science, history and English, and history and elective teachers in the presence of nurture and support. The data showed that there were differences between science and history as well as science and elective
teachers in the presence of purpose and expectation. The data showed that there was a difference between in science and history teachers in the presence of life guiding skills.

Statistical analysis of the protective factors of teachers between tested and non-tested subject areas when all dependent variables were considered collectively indicated no significant differences. The follow-up statistics on each protective factor showed that there was not a significant difference in teachers when each protective factor was considered separately. Although thought to increase the stress and challenges teachers face, these data indicated that the protective factors in teachers were quite similar in the absence or presence of a tested subject area class. These findings suggest that the protective factors of teachers in tested and non-tested areas are more similar to each other than not.

Statistical analysis of the protective factors of teachers between traditional and alternative certification routes when all dependent variables were considered collectively indicated no significant differences. The follow-up statistics on each protective factor showed there was a significant difference between traditional and alternative route teachers on nurture and support. There was not a significant difference between the two certification routes on any of the other five subscales. This can be interpreted as there being differences between teachers who went through traditional and alternative certification routes when identifying the presence of nurture and support.

This study also investigated the interactions of the independent variables to determine if there were differences in protective factors. The only interaction that showed significant differences were the interactions of subject area and teacher education.
route. It can be inferred that being in a tested or non-test classroom has little to no effect on the presence of protective factors in teachers.

The interaction of subject area and teacher education route was investigated closer by determining if there were differences in the protective factors when considered independently of each other. The data supports the notion that an interaction of subject area and teacher education route influences the presence of nurture and support, purpose and expectations, meaningful participation, and life-guiding skills. These data are consistent with the previously reported data that subject area influences that presence of nurture and support and life guiding skills. These data are also consistent with the assumption that education route influences nurture and support, meaningful participation, and life-guiding skills.

These data support the notion that each protective factor may contribute unequally to an individual’s resilience (Muller et al., 2011). It is important to note that all of the six protective factors may be present in an individual, but this study only aimed to identify whether or not there were differences among various groups of teachers. This research found that there were significant differences on the subscale of nurture and support among teaching disciplines and certification route. Furthermore, past research has also shown that being connected with colleagues will have a greater increase on the resilience of teachers (Howard et al., 2004, Taylor, 2013, Yonezawa et al., 2011, Jones et al., 2013, Henderson et al., 2003).

Implications

Because 25% of public school teachers leave the profession within the first three years and research has shown that more resilient teachers tend to stay in the profession,
this study could help to administrators have more insight on the specific needs of their teachers that would keep them from leaving the teaching profession (Curtis, 2012 and Muller et al. 2011). Administrators can encourage teachers to become a part of professional learning communities that are discipline specific. The professional learning communities can serve as a support system when dealing with the day to day experiences of a teacher. These groups of teachers can use meeting opportunities to develop relationships that may help foster the nurture and support necessary to keep them from leaving the teaching profession. Research has shown that professional learning communities help teachers develop a sense of professional resilience (Yonezawa et al., 2011). Furthermore, recruiting and training programs for teachers can use this study to help recognize that there are differences in the needs of teachers who are both traditionally and alternately certified. A suggestion could be for school districts to group teachers by certification route during the moments of new teacher orientation. This would allow teachers to be open about their specific needs. Grouping teachers based on their similarities could eliminate time spent assuming that all teachers need the exact type of nurture and support.

Recommendations for Future Research

The participants in this study were kindergarten to twelfth teachers in Mississippi public schools. The study is unable to be generalized to the entire teacher population because of those limitations. One way to increase the generalizability of this study is to conduct further research using teachers in private school settings. Teachers in private and public-school settings may experience different challenges and protective factors may differ. It is also suggested that further research is conducted in other states in the United
States and other countries around the world. The study could also be extended to teachers in the post-secondary setting to compare the differences of the protective factors of teachers in secondary schools.

Furthermore, the questionnaire for this study was administered to teachers during the beginning of the school year. Because the duties, stressors, and workload of teachers may change throughout the school year, it is also recommended to administer this study during varying times of the school year. Teachers may respond differently to many of the questions on the questionnaire based on their current moods.

Qualitative research could also be completed to investigate the specific sources of each protective factor. This could provide administrators more of a direct plan when attempting to recruit and retain teachers.

Limitations

The following are limitations of this study:

1. The results were limited to single trial of data being collected.

2. The results were limited to teachers who volunteered to complete the questionnaire.

3. Attitudes of teachers prior to taking the questionnaire may have affected the responses.

4. Conclusions may not be generalizable to all teachers since the participants were recruited from Mississippi school districts.
APPENDIX A – Survey Instrument

The University of Southern Mississippi

Informed Consent. As a Doctoral student at the University of Southern Mississippi, I am conducting research on the factors that help build teacher resilience and increase teacher retention. You are being asked to complete an online questionnaire to help aid in this research. There are minimal risks that may include the time it takes to complete the questionnaire. Once this research is complete, teachers and administrators may be able to use these findings to improve the work environment for teachers to foster resilience. As a result of completing the questionnaire, participants may benefit by developing a better understanding of how varying factors lead to building resilience in the classroom.

Teachers completing this questionnaire must be 18 years of age or over and should be full-time teachers. Completion of the questionnaire should take no more than 10 minutes. Participants will not be asked to include any identifying information on the questionnaire. All data will be compiled and reports will be developed based on the information obtained from the findings. The final summary reports will then be used in my dissertation and possibly published or presented in a professional venue.

Any personal information inadvertently obtained during the course of this study will be kept confidential and destroyed once all information has been compiled. All participants will provide consent prior to completing the questionnaire. It is important to note that participation in the research project is completely voluntary. Participation may be declined or discontinued at any point without concern over penalty, prejudice, or any other negative consequence. Feel free to contact me via email at zdunia.lucas@eagles.usm.edu if you have any questions and/or concerns regarding this research project. In addition, for overall results, you may contact me after June 20, 2017. This research is being conducted under the supervision of Sherry Herron, PhD (sherry.herron@usm.edu).

This project has been reviewed by the Institutional Review Board, which ensures that research project involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6520.

By completing this survey, you give the above mentioned researcher permission to use the data obtained from the questionnaire for the purposes outlined above.
<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. My family and/or friends support my endeavors.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Q2. I have clear expectations of myself.</td>
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<tr>
<td>Q3. I share a common set of values with the people in my life.</td>
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<tr>
<td>Q4. My behaviors are influenced by cultural norms.</td>
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<tr>
<td>Q5. I contribute to the greater good of humanity.</td>
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</tr>
<tr>
<td>Q6. I effectively apply life-skills to assist with day-to-day demands.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Strongly agree</td>
<td>Somewhat agree</td>
<td>Neither agree nor disagree</td>
<td>Somewhat disagree</td>
<td>Strongly disagree</td>
</tr>
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<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Q7. My colleagues encourage my efforts.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q8. I am motivated to achieve my goals</td>
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</tr>
<tr>
<td>Q9. My interaction with others provides me with a sense of belonging.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Q10. My life is guided by clear expectations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q11. I am an active participant in my community.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Q12. I strive to acquire life-skills necessary to succeed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q13. I am supportive of my colleagues.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Strongly agree</td>
<td>Somewhat agree</td>
<td>Neither agree nor disagree</td>
<td>Somewhat disagree</td>
<td>Strongly disagree</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-----------------------------</td>
<td>------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Q15. My interaction with others fails to provide me with a sense of belonging.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q16. I meet others expectations with my actions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q17. My contributions make a positive impact.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q18. I utilize problem-solving skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q19. The people in my life fail to support my efforts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q20. My priorities are well defined.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Q21. I feel connected to those around me.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q22. Others' expectations for me are constant,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q23. I fail to contribute to life in a meaningful way.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q24. I lack those life-skills that I need to thrive.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q25. I encourage my family and/or friends.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q26. I lack the motivation required to achieve my goals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q27. I am comfortable in the presence of my colleagues.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Q28. I have a clear understanding of the policies established to direct my work.</td>
</tr>
<tr>
<td>Q29. I utilize my talents in a meaningful way.</td>
</tr>
<tr>
<td>Q30. I communicate effectively to navigate life's twists and turns.</td>
</tr>
<tr>
<td>Q31. The people in my life promote my success.</td>
</tr>
<tr>
<td>Q32. I am driven to meet my expectations.</td>
</tr>
<tr>
<td>Q33. I enjoy being around others.</td>
</tr>
<tr>
<td>Q34. The expectations placed on me by others are often unclear.</td>
</tr>
</tbody>
</table>
Q35. I recruit participants for volunteer activities.
   - Strongly agree
   - Somewhat agree
   - Neither agree nor disagree
   - Somewhat disagree
   - Strongly disagree

Q36. I adapt to meet life’s challenges.
   - Strongly agree
   - Somewhat agree
   - Neither agree nor disagree
   - Somewhat disagree
   - Strongly disagree

Q37. What is your primary teaching subject area?
   - Mathematics
   - Science
   - English
   - History
   - Technology
   - Elective (Art, PE, Foreign Language, etc.)

Q38. Is your primary teaching subject area state tested?
   - Yes
   - No

Q39. Teacher education route:
   - Traditional route
   - Alternate route
APPENDIX B – IRB Approval Letter

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 21, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Event Report Form”.
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 16061701
PROJECT TITLE: A Comparison of Protective Factors in Teachers
PROJECT TYPE: New Project
RESEARCHER(S): Zandra Lucas
COLLEGE/DIVISION: College of Science and Technology
DEPARTMENT: Center for Science and Mathematics Education
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Exempt Review Approval
PERIOD OF APPROVAL: 05/27/2016 to 06/29/2017

Lawrence A. Hosman, Ph.D.
Institutional Review Board
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: R16061701
PROJECT TITLE: A Comparison of Protective Factors in Teachers
PROJECT TYPE: Renewal of a Previously Approved Project
RESEARCHER(S): Zundra Lucas
COLLEGE/DIVISION: College of Science and Technology
DEPARTMENT: Center for Science and Mathematics Education
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Exempt Review Approval
PERIOD OF APPROVAL: 06/27/2017 to 06/26/2018

Lawrence A. Hosman, Ph.D.
Institutional Review Board
**APPENDIX C  Permission to use Instrument**

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**Teacher Resilience Survey**  
14 messages

Zundra Lucas <zundra.lucas@eagles.usm.edu>  
To: smullor1@murraystate.edu  
Wed, Dec 24, 2014 at 2:42 PM

Dr. Muller,

My name is Zundra Lucas, and I am a doctoral student from the University of Southern Mississippi. Currently, I am in the process of writing my dissertation tentatively on the topic of protective factors and teacher resilience under the direction of my dissertation committee chaired by Dr. Sherry Herron.

After reviewing your articles titled “Comparing Protective Factors and Resilience among Classroom-based Teachers and Community-based Educators” and “Considering Protective Factors as a Tool for Teacher Resilience,” I would like to gain access and permission to use your survey instrument to evaluate teacher resilience. I would like to use and to print your questionnaire under these conditions:

- I will use this questionnaire only for my research study and not for profit.
- I will include the copyright statement on all copies of the instrument.
- I will send, upon request, an electronic copy of my research study, reports, articles, and the like that make use of these survey data for your viewing.

If these are acceptable conditions, please indicate by emailing me a statement of permission at your earliest convenience.

Sincerely,

Zundra Lucas  
Doctoral Student  
University of Southern Mississippi  
116 College Drive  
Hattiesburg, MS 39406

---

Susan Mullor <smullor1@murraystate.edu>  
To: Zundra Lucas <zundra.lucas@eagles.usm.edu>  
Mon, Dec 20, 2014 at 9:18 PM

Zundra,

I have attached a copy of the survey with some information in green to tell you which scale each question belongs with. The bottom screen shots show you how we laid it out for ease of use.

You can use the survey for your project under the conditions that you have proposed.

Susan Mullor  
[Quoted text hidden]

[Resiliency Survey.pdf]  
470K
REFERENCES


59


