Factors Influencing Stress, Burnout, and Retention of Secondary Teachers

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Abstract

This study examines the stress, burnout, satisfaction, and preventive coping skills of nearly 400 secondary teachers to determine variables contributing to these major factors influencing teachers. Analysis of Variance (ANOVA) statistics were conducted that found the burnout levels between new and experienced teachers are significantly different, with novice teachers having higher burnout, but their difference in stress levels was not statistically significant. In three multiple regression tests, stress and burnout were found to be statistically significant predictors of job satisfaction; years of experience, job satisfaction, and burnout were statistically significant predictors of stress; and job satisfaction, preventive coping skills, and stress were statistically significant predictors of burnout.

Keywords: stress, burnout, teacher retention, job satisfaction, beginning teachers, quantitative research

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Factors Influencing Stress, Burnout, and Retention of Secondary Teachers

For centuries, teaching has been characterized as a profession that is "emotionally taxing and potentially frustrating" (Lambert, O'Donnell, Kusherman, & McCarthy, 2006, p. 105). The rate at which teachers leave the profession is significantly higher than the departure rate in other professions (Minarik, Thornton, & Perreault, 2003). Ingersoll (2002) reports the departure rate in non-teaching professions remains around 11% each year. This percentage is lower than the over 16% of public school teachers that leave the profession or change schools each year (Cox, Parmer, Tourkin, Warner, & Lyter, 2007). The departure rate of novice teachers is even higher. The number of teachers who leave the profession within the first five years can range from one third to one half (Hanushek, 2007; Ingersoll, & Smith, 2003). Because of the high teacher attrition rates within the first five years of their career, this vulnerable time is "an opportunity lost for the health of the teaching profession" (National Council on Teacher Quality, 2008, p. 3). This vulnerability can be attributed to the fact that they transition from being a student to being a teacher and this can define who they are as educators (Conroy, 2004). Studies have shown that teaching is a stressful career and this can lead to teachers suffering from burnout (McCarthy, Lambert, O'Donnell, & Melendres, 2009), resulting in a national epidemic of teacher departures. This paper delves into this problem and attempts to find adequate predictors of teacher stress and burnout within secondary level teachers. This research could, in turn, help alleviate the number of teachers fleeing the profession by informing and guiding future studies on determining specific solutions to relieve stress and burnout.

Literature and Framework

Stress and Burnout

Factors leading to stress and burnout are often related to the characteristics of being effective or highly qualified and the pressures related to achieving those goals (Grant, 2007), as well as increased accountability measures for teachers (Sorenson, 1999). However, those are not the only factors that contribute to the stress of the teaching profession. According to the most recent Teacher Follow-up Survey, 32% of teachers who changed schools cited "poor working conditions" as an important reason for their decision, and over 37% of teachers who left the profession stated they were leaving to "pursue a job outside of teaching" (Cox et al., 2007). Geving (2007) found that poor student behavior is a main contributor to teacher stress, especially in secondary level teachers. Other cited reasons for teacher stress are lack of administrative support (Blase, Blase, & Du, 2008; Lambert et al., 2006) and the excessive number of tasks that are required of new teachers who have not acquired successful task-management skills (Brown, 2005). The combination of many factors will result in nearly 50% of teachers leaving the profession before they reach their sixth year of teaching (Ingersoll & Smith, 2004).

Teaching is a highly stressful career, and teachers are leaving the profession at an alarming rate (Hanushek, 2007; Ingersoll, & Smith, 2003). Without effective teachers, class sizes increase, school administrators become frustrated, parental concerns grow, and stress levels increase.

Liminality

The term "liminality" derives from the Latin root *limen* meaning "boundary or threshold" (Meyer & Land, 2005, p. 375). In 1960, Arnold Van Gennep wrote about the "Rites of Passage" a person experiences when changing cultures or a way of life. He describes this particular

transition in three different stages: preliminal rites, liminal rites, and postliminal rites. The liminal stage is the stage has been the most researched and Van Gennep (1960) describes it as "the transitional stage" where a person is transitioning from one social state to another. He also refers to it as a "territorial passage." Thus, Van Gennep refers to liminality as the period when one is between states, such as during a wedding ceremony when a person is not single but not married, or when certain cultures welcome a new member but they are not yet completely transitioned. The transition was later described as being "betwixt and between" social stages, and this terminology has been used widely in studies on liminality (Bettis & Mills, 2006).

In the terms of education, Conroy (2004) explains liminality as "a threshold…the entry and exit point between zones of experience or understanding," and this concept matches the threshold a new teacher experiences when he or she is "betwixt and between" being a student and a teacher (p. 53). This period can involve a humbling of the participant because the teacher is being "stripped" of their old identity (Meyer & Land, 2005). These are the stages in which a teacher is most vulnerable to stress and feelings of dissatisfaction with the profession. Cook-Sather (2006) describes the liminal stage as when "she or he is neither what she or he was nor what she or he will become" and the hope is those teachers in this stage find their stride and become successful teachers (p. 110).

Teacher Follow-up Survey

The "Teacher Follow-up Survey" is administered every four years. It serves as a follow-up to the "National Schools and Staffing Survey" from the National Center for Education Statistics. It was completed most recently during the 2004-2005 school year. Over three million teachers were surveyed for this version of the Teacher Follow-up Survey. Each teacher surveyed was placed in one of three categories. They were either classified as a "stayer," "mover," or

"leaver." "Stayers" were teachers who remained at their current teaching assignment. "Movers" were teachers who remained in teaching but left their current teaching assignment for another school or district. Finally, "leavers" were those teachers who left the education profession. Of those surveyed, over 19% were teachers within their first three years of experience. Of that 19%, over 23% were classified as movers or leavers. Additionally, the study revealed that over 10,000 (36%) of the first-year teachers were movers or leavers that year (Cox et al., 2007).

The Teacher Follow-up Survey reinforces some of the reasons teachers leave the profession and refutes others. Teacher salaries are a widely discussed feature of American education. Although 16% of the teachers stated this was one of the reasons they left, it was not the most noted reason as retirement was the highest rated reason with 38% of the teachers leaving due to retirement. Hanushek, Kain, and Rivkin (2001) were able to show that a substantial increase in salary would reduce only marginally the attrition rate of teachers. Other reasons suggested for teacher departures are violence, urban populations, and weak administration. The Teacher Follow-up Survey indicates a weak administration is one reason teachers were movers with 37% of teachers changing schools because of weak administration, but violence and urban populations were not found to be significant contributors of teacher departures (Cox et al., 2007). Pointing out the contradictory nature of the results, in a qualitative study, Smith and Smith (2006) find that some of the teachers interviewed left urban schools for stress-related reasons including violence, lack of feelings of safety, and poor community involvement.

Other reasons were noted as significant factors for teachers who were leavers or movers. Over 38% of movers left for a better teaching position, and almost 33% stated they were moving due to "poor working conditions." As for the leavers, retirement is the most commented reason

for teachers to leave the profession with 38% of leavers citing retirement as one of the reasons.

More significant is the fact that 37% of leavers left to pursue a career outside of the teaching

profession, and 18% cited they were leaving because they were "dissatisfied with teaching as a

career."

Stress

Sorenson (1999) states, "Stress is a condition of twenty-first-century education that

continues to increase as more accountability standards and new policy initiatives are introduced"

(p. 12). Many factors can contribute to high levels of teacher stress, but Geving (2007) suggests

student behavior is an increasing factor of the stress, especially among secondary level teachers.

In her study of secondary level teachers, she found 10 specific student behaviors to be

statistically significant contributors to teacher stress. The behavior factors leading to teacher

stress from the most stressful to the least stressful (but still statistically significant) are: hostility

towards the teacher, not paying attention during class, noisiness, lack of effort in class, coming to

class unprepared, hyperactivity, breaking school rules, harming school property, hostility toward

other students, and lack of interest in learning.

Other potential stressors may include the lack of parental and administrative support

(Blase, Blase, & Du, 2008; Lambert et al., 2006), and the lack of task management for new

teachers when dealing with paperwork and extracurricular duties outside the classroom (Brown,

2005). These tasks can include parent conferences, bus monitoring, hallway duty, staff meetings,

bathroom duty, cafeteria supervision, and a plethora of other tasks assigned to teachers.

Jepson and Forrest (2006) conducted a multiple regression test to determine which factors

contribute to teacher stress. They tested and found the following independent variables to be

statistically significant predictors of stress: type of school setting, Type A personality, teacher-

specific achievement striving, and occupational commitment to the teaching profession. The strongest negative predictor of stress was occupational commitment, and it revealed that as commitment increases, stress decreases. The next most significant factor was achievement striving. Its positive beta value indicated the teachers who were striving to reach higher achievement were more stressed. Additionally, teachers with a Type A personality are also found to be more stressed. Type A teachers are more aggressive, and would consider themselves to be "perfectionists." Another interesting result is that elementary school teachers have higher stress than secondary teachers. The factors that were not found to be significantly related to teacher stress were gender, years of experience, and job status (full or part time).

Burnout

Freudenberger (1974) began researching burnout during the free clinic movement and found that those involved were becoming "inoperative to all intents and purposes" due to the extreme working conditions (p. 160). Maslach, Jackson, and Leiter (1996), some of the most well-known researchers of burnout, constructed burnout as a combination of three components: Emotional exhaustion, personal accomplishment, and depersonalization. "Emotional exhaustion" is the emotional lassitude a person experiences when they are fatigued and frustrated. "Personal accomplishment" is the person's self-evaluation of their own work. The final component, "depersonalization," is when a person has a tendency to isolate themselves from others.

Ghorpade, Lackritz, and Singh (2007) found that the components of burnout are statistically related to different personality traits. Emotional exhaustion was negatively related to extroversion and emotional stability, depersonalization was negatively related to agreeableness and emotional stability, and personal accomplishment was positively related to extroversion, conscientiousness, agreeableness, and emotional stability. Kokkinos (2007) also found similar

results when comparing burnout to personality traits; however, that study also revealed that

student misbehavior and the time constraints on teachers were significant predictors of the

burnout components.

Preventive Coping Skills

Teachers cope with school stress in many different ways. Sorenson (1999) suggests

simple tactics that can help a teacher control stress such as a balanced diet, exercise, adequate

sleep, as well as being able to recognize work overload and stress-resistant workplaces. Certain

coping mechanisms can also have a negative effect on a person's mental health. Relieving stress

using anger-induced methods such as placing blame on others and yelling can increase mental

health problems such as insomnia, anxiety, and depression (Suldo, Shaunessy, & Hardesty,

2008).

When a potential stress threat occurs, a stress response is triggered (Hobfoll, 1988).

Adequate preventive coping resources can reduce the number of events a teacher interprets as

stress threats, which eliminates the stress response trigger (McCarthy, Lambert, & Brack, 1997).

McCarthy (2002) and his colleagues created a model of stress prevention and coping and used

this model to visually represent the use of preventive coping skills in a stressful situation, known

as demands. This model is found in Figure 1. The model begins with preventive coping resources

and the dashed lines from that variable indicate the individual can control the degree of demands

from life events, individual perceptions they have about demands encountered, and their own

appraisal of the ability to handle demands. Once the demand has become apparent, the individual

must appraise the seriousness of the demand. Optimal results would be those in which the

individual feels the resources available outnumber the demands (R≥D), but the reverse can also

occur (R<D), which triggers the aforementioned stress response. If this occurs, combative coping

mechanisms must be reinforced to reduce the intensity of the stressors.
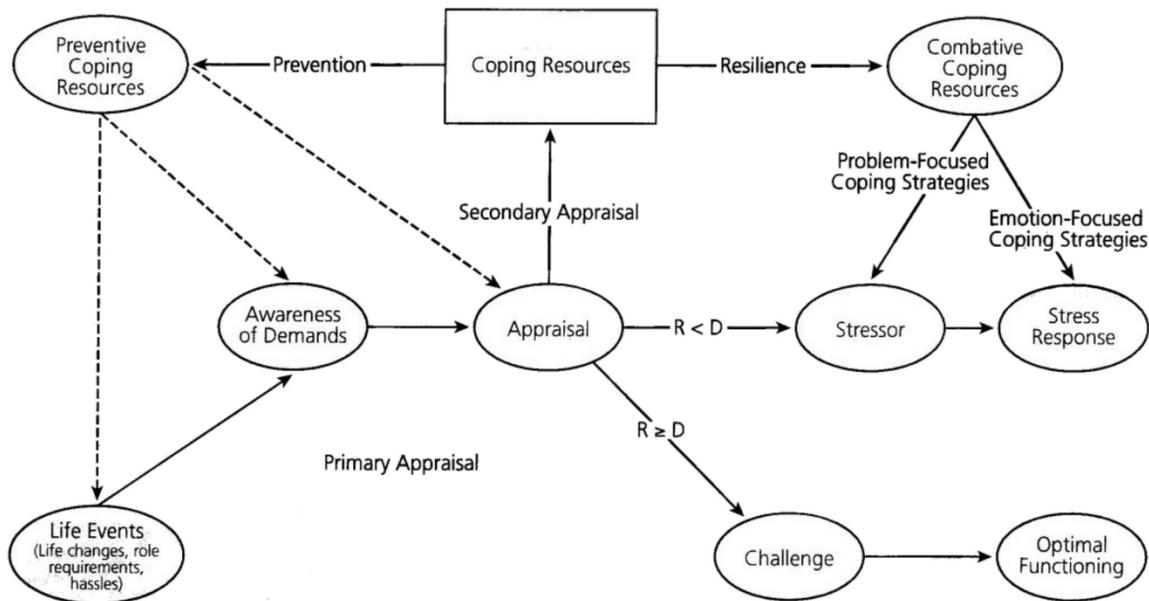
Figure 1. Model of prevention of stress and coping (McCarthy, Lambert, Beard, & Dematatis, 2002).

Betoret (2006) conducted a study on Spanish teachers in Spain. His study combined

teacher self-efficacy, coping resources, stress, and burnout. He found that teachers with a

reported higher amount of coping support at their schools and higher self-efficacy were found to

be less stressed and more motivated and satisfied in the profession. Additionally, those teachers

were also found to be less burned out.

It has been found that up to one half of teachers leave the profession within their first five

years of teaching (Ingersoll & Smith, 2004). This failure to retain teachers is becoming a national

epidemic and strategies invoked by school systems are not effective enough to reduce the stress

of these novice teachers, thus resulting in their departure from the profession. Current efforts

such as mentoring, professional development training, and stronger collaboration among teachers

may be showing small improvements but have yet to be effective on a larger scale. In order to

reduce stress levels and increase teacher retention, more research must be conducted to understand how teachers cope with the stress and study those teachers with successful coping skills.

Rationale and Research Questions

Large-scale studies such as the Schools and Staffing Survey and the Teacher Follow-up Survey are conducted to determine reasons that teachers leave the profession and studies have been published that also delve into reasons for teacher stress and burnout. In contrast, this study aims to combine these facets together and study how they can be related within secondary level teachers. Since the Teacher Follow-Up Survey reports such a high number of departures prior to the fifth year of experience, this project aims to determine if there is a significant difference between the stress and burnout of those teachers within the first five years of teaching and those with greater than five years of experience. Additionally, The Teacher Follow-up Survey also finds that teachers are dissatisfied with the teaching profession so this paper is designed to determine if those teachers who claim to be dissatisfied are more stressed and more burned out than those who claimed to be satisfied with the profession. Finally, the third goal of this paper is to determine a combination of variables that can be significant predictors of a teacher's stress and burnout levels. Previous research on teacher stress and burnout has been conducted with elementary level teachers using an instrument designed specifically for elementary level teachers (Lambert, McCarthy, & Abbott-Shim, 2001). This study will use that previous research and elementary level instruments to guide the creation of the secondary level instruments in attempts to better reach the goals of this paper, which involve secondary level teachers.

Methodology

Participants

During the summer of 2008, 412 secondary level teachers attended Advanced Placement (AP) professional development workshops on the campus of a large, urban university in the Southeastern United States. These teachers were targeted for participation in this research project. The participants were current or potential AP teachers of various AP topics. All workshops were either five days or two days in length. The five day workshops were designed for teachers new to teaching AP courses and included more in-depth instructions for teaching the courses. The two-day workshops were refresher courses for experienced AP teachers. The consultants leading the workshops made appointments for the researcher to administer the surveys for the project during or immediately after class time on any day of the workshop.

After all appointments with the workshop leaders had been made and surveys collected, 385 teachers had participated in the project. Teachers of AP courses often are more experienced teachers, but there was still a reasonable sampling of teachers with fewer than six years of teaching experience (36.3%). Table 2 describes the distribution of the sampling of teachers surveyed for this portion of the study. Participants were instructed to leave any question blank they did not feel comfortable answering. The percentages not totaling 100% are due to the participants who chose not to respond to those individual questions. When questioned about their teaching license and how it was obtained, there was a higher percentage of teachers who chose not to respond. This response rate can indicate a lack of clarity with the question and should be addressed in future uses of the instrument. Approximately half of the teachers attending the workshop were local commuters to the workshop from the state holding the workshops, and approximately ninety percent of the participants were teachers from that state. The other

participants included teachers from other states and countries. Even though the majority of the

teachers participating in the summer programs were from the state where the research was

conducted, that state contains a very diverse population of students. Approximately 37% of the

school districts in the state are labeled as urban schools. Also, 50% of the students in the state

were classified during the 2008-2009 school year to receive a free or reduced lunch, which is an

indicator of the poverty level of the students within the state. Of the students attending school in

that state during the 2008-2009 school year 54% were Caucasian, 31% were African-American,

and 15% were from other races such as Hispanic, Asian, and American Indian.

Table 2

Demographics of participants

	Quantity	Percentage
Gender		
Male	145	37.7
Female	232	60.3
Years of Experience		
0-5 years	145	36.3
6-10 years	83	21.6
11-15 years	75	19.5
16-20 years	34	8.8
21-25 years	18	4.7
26+ years	29	7.5
Age		
21-25	51	13.2
26-30	68	17.7
31-40	124	32.2
41-50	79	20.5
51-60	51	13.2
61+	11	2.9
Subject Taught		
Math	73	18.9
History	87	22.6
Foreign Language	21	5.5
Science	104	27.0
English	80	20.8
Other	9	2.4

Instruments

Three instruments were used to collect data for this project. All three instruments were combined into one single packet with a consent form for the teachers to complete. The average time used to complete the survey was approximately 30 minutes and the participants completed the survey in a quiet setting with the researcher present. Teachers were given adequate time to finish the survey and all were finished within 40 minutes.

Classroom appraisal of resources and demands (CARD) – Stress. This survey instrument was created by Lambert, McCarthy, and Abbot-Shim (2001) but was designed for elementary school teachers. With permission from the authors, the original CARD was altered by the researcher to make it suitable for secondary-level teachers. The CARD survey measures on two scales: Classroom Demands and Classroom Resources. This allows the researcher to compute a stress score for individual teachers by finding the difference between these two scales. Each participant received a score for "demands" that was a mean of their responses to individual questions asking teachers to rate the severity of 34 specific demands of the profession. Those questions ranged from scoring the demands of extracurricular activities to the demands of problematic behaviors of students. Similarly, each participant received a score for "resources" that was a mean of their responses to individual questions asking teachers to rate the helpfulness of 29 specific resources of the profession. The resources they scored were items such as front office staff resourcefulness and administrative support. When the CARD was designed, the creators found that teachers whose self-reported demands were greater than their self-reported recourses (D>R) suffered more stress than those teachers who felt the resources surpassed the demands (D<R) (Lambert et al., 2001). Because of this correlation, they found the difference between the two scores adequately measured an individual teacher's stress. In this study, the

resource score was subtracted from the demand score to determine a stress score for each teacher. A positive number would indicate higher stress than those teachers acquiring a negative number.

In addition to the standard questions on the CARD, questions were added to allow the researcher to determine if the teacher has ever had thoughts of leaving the profession and how often those thoughts occur or have occurred. There was also an additional question for teachers to rate their satisfaction with the teaching profession. Their satisfaction score choices were "Very Satisfied", "Somewhat Satisfied", "Somewhat Dissatisfied", or Very Dissatisfied". This item was used in the statistical measures as the teacher's satisfaction score with 1 being "Very Satisfied" and 4 being "Very Dissatisfied".

Maslach burnout inventory (MBI) – Burnout. The MBI was created in 1996 by Maslach, Jackson, and Leiter. The MBI is the most well-known measure of teacher burnout and has been used in more than 90% of empirical studies on the subject (Hastings, Horne, & Mitchell, 2004; Schaufeli & Enzmann, 1998). The three main components of burnout measured by the 22 questions on the MBI include: emotional exhaustion, depersonalization, and personal accomplishment. Each of these three scores is measured using questions answered with a 7-point frequency scale and the answers range from 0 ("never") to 6 ("everyday"). "Depersonalization" occurs when a teacher isolates himself from others. This variable is measured with five items on the survey that ask for the frequency with which they experience negative feelings towards other teachers and administrators. "Personal accomplishment" is the self-evaluation of the efficacy of the teacher's own work. Eight items on the survey test the teacher's feelings of personal accomplishment. "Emotional exhaustion" measures fatigue, frustration, and stress. Nine questions on the survey are used to create a score for this component. Since they are measured by

frequency, the personal accomplishment scores were reverse-coded to match the consistency of the results (McCarthy, Kissen, Yadley, Wood, & Lambert, 2006). The average of each of the twenty-two questions yields a burnout score for individual participants.

Preventive resources inventory (PRI) – Coping Skills. The PRI, created by McCarthy and Lambert (2001), is a survey instrument that measures how well a teacher can prevent stressful situations. It consists of 15 questions requiring a Likert Scale response where participants are asked to describe how well they agree with statements related to the prevention of stress. The PRI instrument measures the following aspects: perceived control, maintaining perspective, social resourcefulness, self-acceptance, and scanning. "Perceived control" is similar to self-confidence and is defined as "measuring perceptions of the ability to influence life events in order to keep daily hassles from becoming stressful" (Lambert, McCarthy, Gilbert, Sebree, & Steinley-Bumgarner, 2006).

"Maintaining perspective" is the belief that one can keep emotions at a manageable level during stressful situations. Participants who have higher scores in this category are more successful in using life experiences in a constructive and beneficial way. "Social resourcefulness" is the act of keeping others close who can act as a buffer during stressful situations. It measures the participant's perception of how well they can maintain supportive relationships. "Scanning" is the ability of a teacher to anticipate stressful situations before they arise. Questions in that category include "I am good at identifying things that will cause stress in the future" (McCarthy et al., 2006).

"Self-acceptance" is the degree to which a teacher can accept any of his/her own shortcomings, especially when dealing with life situations. After measuring those various scales, the number of questions on the PRI made the survey quite lengthy. Due to the length of the PRI,

the instrument used in this study was shortened to measure only self-acceptance. In previous

studies "self-acceptance" has been shown to be an indicator for all other variables. Therefore, a

condensed questionnaire was used in this study consisting of only the 15 questions measuring

self-acceptance (Lambert et al., 2006).

Variables

Descriptive Statistics

The means and standard deviations of the dependent variables are reported in Table 3.

Burnout scores range from zero to six with six being the most "burned out." "Self-acceptance"

ranges from one to five with a higher score indicating more sufficient preventive coping skills.

"Job Satisfaction" was the result of a single scale score where a score of zero meant "very

satisfied," one was "somewhat satisfied," two was "somewhat dissatisfied", and three was "very

dissatisfied". Finally, each participant was given a stress score, which was the difference of their

perceived demands and their perceived resources. Due to the order of the variables in the

difference, a positive score would indicate the teacher feels the demands are higher than the

resources, which would reveal higher stress. Normality measures were tested and all were within

reasonable ranges.

Table 3

Means and Standard Deviations of Dependent Variables

DV	*M*	*SD*
Burnout	1.91	.82
Stress	-.209	1.05
Self-Acceptance	4.06	.483
Job Satisfaction	.53	.635

Reliability

Job satisfaction. All teachers participating in the study were asked how satisfied they were with the teaching profession. The answer choices ranged from 0 (very satisfied) to 3 (very dissatisfied). Of the teachers surveyed, 93% stated they were either "very satisfied" or "somewhat satisfied" with the teaching profession. This could be the result of sampling bias because students enrolled in AP courses are generally college-bound students who tend to be more dedicated to education. This could serve as a limitation due to the reason that this particular sampling of teachers appeared to be more satisfied in teaching as a profession, but this was not unexpected. Due to this situation, the data for this variable was skewed to the right. Seven participants chose not to answer the question resulting in n=378. Due to this outcome, job satisfaction was not used as a variable to stratify and conduct group comparisons by satisfaction levels; it was only used as an outcome variable in an effort to determine whether other factors can contribute to a teacher's job satisfaction.

Stress, burnout, and self-acceptance survey instruments. The three individual surveys were analyzed for reliability. It was found that the reliability coefficients were comparable to those found in previous studies. From the MBI, the burnout score found from a combination of Emotional Exhaustion, Depersonalization, and Personal Accomplishment posted a tenable Cronbach's alpha (α=.895). No reportable skewness or kurtosis was found in the burnout variable.

The two components of the stress score for each teacher posted strong reliability coefficients. The teachers' self-reported appraisal of resources (α=.910) and appraisal of demands (α=.930) combined generate a stress score for each participant. The bivariate correlation between resources and demands was found to be small (r=.104), but when combined

to create a stress score, they create a high reliability (α=.895). It was found that the skewness and kurtosis of these scores were all within normal ranges. One participant skipped an entire page of the CARD resulting in one missing result for resources as well as a missing result for stress.

The shortened Preventive Resources Inventory was found to be a reliable test of self-acceptance (α=.846). Each question presented a different idea with extreme and moderate answer choices using a Likert Scale. In ten of the fifteen questions there was at least one participant who selected the most extreme answers. In five of the questions none of the participants made the choice of "strongly disagree." There was no significant skewness or kurtosis of self-acceptance.

Results and Discussion

Stress and Burnout of New and Experienced Teachers

A one-way ANOVA was conducted to determine if there is a significant difference between the stress and burnout levels of new and experienced teachers. The descriptive statistics are reported in Table 4 below. The means indicate a very small difference between the two groups' stress scores and only a slightly higher burnout score for the novice teachers. When the tests were conducted, however, it was found that no significant difference was found between the stress scores of the two groups (F = 2.374, p = .124), but a significant difference was found when measuring burnout between the groups (F=3.956, p = .047).

Table 4

Descriptive statistics of stress and burnout scores of new and experienced teachers

		N	*M*	*SD*
STRESS	0 (<=5 yrs)	145	-.104	.991
	1 (>5 yrs)	238	-.274	1.080
BO	0 (<=5 yrs)	145	2.020	.854
	1 (>5 yrs)	238	1.849	.797

Research shows that up to fifty percent of teachers leave the profession by the close of their fifth year of experience (Hanushek, 2007; Ingersoll, & Smith, 2003). Based on those previous studies, it was decided that for this study "novice" teachers would be those with up to five years of experience and that "experienced" teachers would be those with greater than five years of experience.

The ANOVA showed that the teachers in these two groups determined by experience did not have a statistically significant difference in their stress scores. Teaching is a stressful career at all levels of experience. Perhaps the causes of stress are different for those teachers in their inaugural year of teaching than for those in their twentieth year of teaching. More experienced teachers generally carry more non-classroom duties such as committees and coaching whereas less experienced teachers may struggle more with teaching responsibilities. Finding a significant difference in the burnout scores between the two groups was an interesting result since the less experienced teachers were the ones with the higher burnout scores. Many people feel more experienced teachers would have higher burnout due to the prolonged exposure to stressful conditions.

Stress, Burnout, and Job Satisfaction

A multiple regression analysis was conducted with the dependent variable being the participants' responses on a single item about job satisfaction and the independent variables being burnout and stress. The independent variables were found to be moderately correlated (r=.502), but the Variance Inflation Factor remained at a reasonable level (VIF=1.329). The regression analysis was found to be statistically significant (R^2_{adj}=.337, F=96.77, p<.001) and both stress (β=.129, p=.008) and burnout (β=.508, p<.001) were found to be statistically

significant indicators of job satisfaction with burnout being a stronger indicator of job satisfaction.

The results reveal that 34% of the variance in job satisfaction of teachers in this study can be attributed to stress and burnout. Dissatisfaction in a profession can lead to departures by the professionals in that career. Although 34% may not seem like a large percentage of variance, there is a moderate effect size ($f^2=.508$), which means it could result in a large number of teachers that continue teaching and opt not to leave the profession. That variance indicates the possibility of a substantial number of teachers remaining in the profession if a remedy is found to reduce stress and burnout. This could result in more successful teachers, improvement of schools, and better educated students.

Factors Contributing to Stress and Burnout

Two more multiple regression analyses were used to determine which factors contribute to stress and burnout among the teachers in the study. The tests are outlined in Table 5 below.

Table 5

Variables of Multiple Regression Analyses

	DV	IV
Test 1	Stress	Number of Student Taught
		Year of Experience
		Age
		Gender
		Self-Acceptance (Preventive Coping Skills)
		Job Satisfaction
		Burnout
Test 2	Burnout	Number of Student Taught
		Year of Experience
		Age
		Gender
		Self-Acceptance (Preventive Coping Skills)
		Job Satisfaction
		Stress

Correlations

Pearson correlation coefficients were computed among the independent variables. The results are reported in Table 6.

Table 6

Pearson Correlation Coefficients of Independent Variables

	Number of Students	Years of Experience	Age	Gender	Self-Acceptance	Job Satisfaction	Stress	Burnout
Number of Students	1	-.009	-.031	-.070	-.037	.136**	.096	.119*
Years of Experience	-.009	1	.741**	.003	.116*	-.143**	-.186**	-.128*
Age	-.031	.741**	1	-.075	.104*	-.140**	-.125*	-.130*
Gender	-.070	.003	-.075	1	-.049	.051	.080	.098
Self-Acceptance	-.037	.116*	.104*	-.049	1	-.401**	-.314**	-.540**
Job Satisfaction	.136**	-.143**	-.140**	.051	-.401**	1	.382**	.572**
Stress	.096	-.186**	-.125*	.080	-.314**	.382**	1	.499**
Burnout	.119*	-.128*	-.130*	.098	-.540**	.572**	.499**	1

** Significant at the .01 level
* Significant at the .05 level

The correlation coefficients indicate statistically significant bivariate correlations between some of the independent variables. Job satisfaction correlates statistically significantly with all variables, with the exception of gender, which does not correlate with any of the variables. Additionally, the teacher's years of experience, self-acceptance, age, and stress all correlate with each of the variables, with the exception of the number of students taught and gender.

Test 1, stress. Mahalanobis' distance was computed to determine if multivariate outliers occurred in the dataset. Three participants were found to be outliers (p<.01) and they were

removed from the dataset. Additionally, 17 other participants failed to receive a score for at least one of the variables which resulted in missing data for those participants.

From the Pearson correlation coefficients found in Table 6 above, it was determined that years of experience, age, job satisfaction, self-acceptance, and burnout were all deemed significantly correlated to stress. Variance Inflation Factors (VIFs) were computed and none were found to be unacceptable. The highest VIF was found to be for age (VIF = 2.263). The results of the multiple regression were found to be significant (R^2_{adj}=.263, F=19.527, p<.001). The results indicate that years of experience, job satisfaction, and burnout are the statistically significant predictors of stress with number of students, age, gender, and self-acceptance being not significant. The standardized and unstandardized betas are reported in Table 7 below.

Table 7

Results of Multiple Regression Test 1

	Unstandardized β	Standardized β	t	Sig.	VIF
Num Students	.002	.073	1.594	.112	1.048
Yrs. Exp.	-.019	-.156	-2.313	.021	2.252
Age	.062	.077	1.139	.255	2.263
Gender	.101	.047	1.035	.302	1.023
Satis	.212	.129	2.293	.022	1.563
BO	.492	.385	6.280	.000	1.850
SA	-.025	-.012	-.214	.831	1.447

$R = .527, R^2_{adj} = .263, f^2 = .356$

Test 2, burnout. When analyzing this multiple regression, 18 participants were not included due to the lack of a score for one of the independent variables. Mahalanobis' distance was computed to find multivariate outliers. Two participants were deemed outliers (p<.01) and both were removed from the dataset.

Similar to the first test, all of the independent variables, except gender, were found to have bivariate correlations with burnout. The Variance Inflation Factors were again found to be

within reasonable ranges with the highest VIF (2.285) being for years of experience. The results

of this multiple regression were also found to be significant (R^2_{adj}=.504, F=53.791, p<.001). The

outcome of the multiple regression analysis reveals that job satisfaction, self-acceptance, and

stress are the significant predictors of burnout with number of students, years of experience, age,

and gender not being found significant. The standardized and unstandardized betas are reported

in Table 8 below.

Table 8

Results of Multiple Regression Test 2

	Unstandardized β	Standardized β	t	Sig.	VIF
Num Students	.001	.041	1.095	.274	1.051
Yrs. Exp.	.003	.028	.497	.620	2.285
Age	-.020	-.031	-.557	.578	2.270
Gender	.056	.033	.888	.375	1.021
Satis	.429	.332	7.819	.000	1.324
SA	-.562	-.331	-8.052	.000	1.236
Stress	.207	.263	6.390	.000	1.246

$R = .716, R^2_{adj} = .504, f^2 = 1.016$

   Factors contributing to stress and burnout. The multiple regression analyses conducted

revealed that years of experience, job satisfaction, and burnout were all statistically significant

predictors of stress. The beta values indicate that as years of experience increases, stress

decreases, while as burnout increases stress increases as well. There was a positive beta value for

job satisfaction, but job satisfaction was coded in order in which they appeared on the survey

with zero being most satisfied and three being least satisfied. This indicates the reverse of how

the results may immediately appear: as job satisfaction decreases (score rises) the stress

increases. The results indicate that years of experience, job satisfaction, and burnout contribute to

26% of the variance of the stress scores. With the large variance accounted for being attributed to

years of experience, job satisfaction, and burnout, it seems feasible that if local, district, and state

administrators could find ways to increase job satisfaction and reduce burnout, then the stress

level of teachers should decline, resulting in fewer teachers leaving the profession.

The second multiple regression test shows more statistically significant results. It reveals

that job satisfaction, self-acceptance, and stress are all significant predictors of burnout. The beta

values indicate that as job satisfaction and preventive coping skills decrease, burnout increases.

Also indicated is that as stress increases burnout increases. The results of the regression analysis

reveal that those three are statistically significant and these predictors account for over 50% of

the variance in the burnout scores. When referring to the retention and general well-being of

teachers, 50% can be considered a very substantial number.

Job satisfaction. In this study job satisfaction was a single item contained on the

Classroom Appraisal of Resources and Demands (CARD). There are many nationally normed

and validated job satisfaction surveys that could be used for future studies. The reason that one

was not included in this study was an effort to reduce the number of questions on the survey.

The General Social Survey (GSS) conducted by Tom W. Smith (2007) at the University

of Chicago found that only 47% of Americans are satisfied with their jobs. Despite such a low

percentage overall, teachers were found to be near the top of the list of professions where the

participants were generally happy. Clergymen, firefighters, and physical therapists were the top

three most satisfied at 87%, 80%, and 78% reporting being very satisfied, respectively. Special

education teachers were near the top of the list with 70% very satisfied, all teachers were next

with 69%, and education administrators followed with 68%. The participants in the GSS study

were "full-probability samples of adults living in households in the United States." This study

has been conducted yearly since 1972 and in this 2006 study, 4,510 participants were

interviewed. They were asked two questions: "On the whole, how satisfied are you with the work

you do – would you say you are very satisfied, moderately satisfied, a little dissatisfied, or very

dissatisfied" and "Taken all together, how would you say things are these days—would you say

you are very happy, pretty happy, or not too happy?" There was a significant correlation found in

the answers of the two questions.

Participants in this study were asked how satisfied they were with the teaching

profession. They were offered similar responses as they were asked to check "very satisfied,"

"somewhat satisfied," "somewhat dissatisfied," and "very dissatisfied." Of the 380 teachers who

answered this question, only 54% responded as being "very satisfied". This number is lower than

the 69% reported in the GSS study. The mean score in the GSS study was 3.61 with a high score

indicating higher degrees of satisfaction. The mean score in this study was .53 with lower scores

indicating high satisfaction. If the .53 was normed to meet the same criteria as the GSS study, the

mean would be 3.47, which is similar to the results found in the GSS study.

Final Remarks and Implications

The data collected in this study reveals many interesting and relevant facts about stress

and burnout that teachers face; however, there is a strong need for additional research in this

field. Novice teachers are particularly vulnerable, but the classification of "new" and

"experienced" still needs further investigation. It appears just measuring the years of experience

in the profession may not be adequate enough and further investigations should be conducted

using more in-depth studies of the psychological levels a teacher progress through during their

beginning stages of teaching. It is interesting to note that when the number of years of

experience was included in the multiple regression tests, it was found to be a significant predictor

of stress, but not a significant predictor of burnout, when the ANOVA test between novice and

experienced teachers showed otherwise. The contradictory results could be explained by the

choice of the cutoff point between novice and experienced teachers and that it may need to be lowered. Perhaps novice teachers should be defined as those with up to three years of experience instead of five.

To further investigate this concern, a test was conducted using this data that presented inexperienced teachers as those with less than three years of experience and experienced teachers as those with three or greater years of experience. When this stratification change was conducted, neither stress or burnout was found to be statistically significant between the newly formed novice and experienced groups (F_{str}=1.596, p_{str}=.207, F_{bo}=.546, p_{bo}=.460). By changing the stratification levels, only 78 teachers remained in the inexperienced group and 306 in the experienced group. The unmatched groups could result in data that is not tenable for a study of this nature. This could be an interesting change for future studies comparing the stress and burnout of novice and experienced teachers when the teachers are not in the specific scenario of those used in this study.

Some may insist that the use of AP teachers for a study of this nature could be a limitation of this study. However, even though the participants were scheduled to teach AP courses at their respective schools the next school year, the majority of those teachers do not teach only AP courses. Of the 385 participants, only six participants reported that they only taught AP courses in the previous school year. The remainder of the participants taught other non-AP courses of various subjects and ability-levels. AP teachers still have strict demands in their AP courses. Many could say they are under more scrutiny for accountability due to the nature of the national test they are required to prepare students for, as compared to other subject area tests in their field that are only state mandated.

This data does show the need for more specific stress reducing tactics for our teachers that can result in more satisfied educators who are willing to remain in the profession. The most popular methods of combating stress are positive peer collaboration, better mentoring for new teachers, and more effective professional development, however the specificity of those three methods has yet to be determined. Novice teachers need camaraderie in the form of informal collaboration, but this collaboration must avoid negative feelings that can only increase the stress of teachers. In order for this to happen, new teachers cannot be isolated from their peers (Brown, 2005). Unfortunately, this can happen physically and socially resulting in the lack of collaboration among teachers. It is also important that novice teachers are assigned mentors in their content area to share ideas and concerns. Unfortunately, in many cases, the mentor is asked to become an evaluator of the new teacher, which can cause animosity between the new teacher and the more experienced teacher, resulting in additional unnecessary stress (Adams & Adams, 2003).

Professional development is needed in order to grow and reflect professionally and teachers desire this form of collaboration (Cwikla, 2002). However, teachers do not see all professional development activities as effective. In order to reduce stress and increase retention, teachers need better professional development that they can see as useful contributions to their teaching. Professional development activities can range from simple school-level tasks for new teachers such as copy machine usage and how to complete administrative tasks to more advanced sessions on content knowledge or best practices.

Teaching is a stressful career and few will refute the significance of the amount of stress involved in the career. When Freudenberger (1974) initially began his research on burnout, he started by researching burnout on all professions, not specifically education. This led up to

discussions on the teaching profession. When discussing who is prone to burnout, Freudenberger claims those most at risk are "the dedicated and the committed" who are "seeking to respond to the recognized needs of people" (p. 161). That description can be interpreted to include teachers who "would rather put up than shut up" (p. 161). When even more pressure is added from administrators, stress levels increase and burnout worsens. Unfortunately, this causes many teachers to never see beyond their fifth year in the profession.

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