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Evaluating contemporary sources of stress in middle school teachers

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Evaluating Contemporary Sources of Stress in Middle School Teachers

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Dedication

I dedicate this thesis to my mother and fiancée who have encouraged me and inspired me to
pursue a career within the field of education. Without your love, support, and inspiration, I would
not be where I am today. Thank you for sharing your experiences as teachers with me and
motivating me to pursue research in this area.

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Abstract

Teacher stress is a concern for modern day school systems because of the relationship between teacher stress and negative outcomes such as absenteeism, poorer work performance, and increased likelihood of physical and mental illness (Joseph, 2000). Teaching is reported to be one of the top highest stressful professions (Kyriacou, 2001). Much of the research identifying sources of stress is out of date when compared to the changes in education over the past ten years. Middle school has been under researched in the previous literature because the concept of the middle school is more recent compared to elementary and high school. The purpose of this study is to identify the level of stress and sources of stress perceived by middle school teachers. Further, identifying trends will aid in targeting support and interventions to decrease the level of stress felt by teachers. Each potential stressor is rated by teachers on both the frequency the factor causes stress and the intensity of the stress felt. The data was compared based on gender, years of teaching experience, and subject area to identify trends and most vulnerable populations. While no significant differences were identified between gender and years of experiences, overall level of stress varied significantly dependent upon the subject area the teacher taught.

Evaluating Sources of Stress for Middle School Teachers

In the 1970's teacher stress was introduced in the research literature as a topic of interest for those in education. Since then the literature regarding teacher stress has grown. Teacher stress is defined as "the experience by a teacher of unpleasant emotions such as tension, frustration, anxiety, anger, or depression resulting from aspects of his or her work as a teacher." When compared to other professions, teaching is reported to be one of the "high stress" professions and a quarter of teachers report their job to be "very or extremely stressful" (Kyrizcou, 2001). In 1991, teaching in inner city schools was ranked as the number one stressful career (Men's Health, 1991; Dunham & Varma, 1998).

Milstein and Golaszewski (1985) said "The end result [of teacher stress] is that many talented men and women with high expectations of achievement are dispirited and disillusioned. Some leave the profession while others stay but are plagued by a multitude of physical, emotional and behavioral stress-related manifestations." According to the Chicago Teachers' Union (1978), 56 percent of teachers report experiencing physical illness and 26 percent of teachers report experiencing mental illness that they report directly related to their role as a teacher (as cited in Travers and Cooper, 1996). Nearly half of all teachers leave the profession within five years (Henke, Chen, & Geis, 2000) According to the Alliance for Excellent Education an estimate 1,000 teachers leave the profession each day. Replacing these teachers costs a total of $2.2 billion per year.

After reviewing the literature, the majority of the research on teacher stress appears to be focused on the degree of stress experienced by teachers, the connection between stress, burnout, and school climate, and the effectiveness of coping strategies

and interventions. Research has investigated the different sources of stress for middle school teachers; however much of this research is outdated with the most recent large scale survey of middle school stressors being from 1990. With the ever changing times, the stress factors encountered by teachers are constantly changing as well.

In the past decade, the education world has been challenged with new legislation, an economic recession, and an increase in technological advances being used in school. Recent research has shown an increase in the acceleration of working speed and an increase in the number assignments for teachers resulting in less time for rest and recovery (Skaalvik & Skaalvik, 2010). Increasingly teachers are active in curriculum assessments, student testing and reporting regimes (Davidson, 2009). The formal training sessions for these new job requirements have been uneven to the new demands (Davidson, 2009). With these significant changes it is necessary to address the changes in sources of stress for the teachers. Dunham and Varma (1998) stated "It is not sufficient just for individual teachers to identify and devise management strategies for themselves; the whole organization of the school needs to recognize the symptoms of stress in itself and provide an impetus for its identification. (p. 44)" In order to accomplish this it's important for administration to identify sources of stress in their own schools (Dunham & Varma, 1998). This study attempts to examine the impact of the changes in education on the sources of stress for teachers. Through identifying sources of stress, support and interventions can be effectively targeted to reduce the level of stress experienced by teachers.

Joseph (2000) outlines the recommended steps to reducing stress in the field of education. This is broken in six steps: 1) accepting existence of stress, 2) understanding

what stress is, 3) identifying sources of stress, 4) learn to recognize reactions to stress, 5) identify coping strategies, and 6) develop stress reduction programs at the individual, department, and school level. The purpose of this study was to identify sources of stress in order to effectively target interventions. The goal of this research was to gain insight into step three, the identification of stressors, so administration and school personnel can then begin to examine the subsequent steps in reducing perceived stress..

Definition of Stress

A stressor is "something in the environment that acts as a stimulus and is physical, psychological, or behavioral in nature" (Travers & Cooper, 1996, p. 13). Stress can have both positive and negative outcomes for individuals. To a certain degree stress can be a stimulus to positive outcomes (Travers & Cooper, 1996). The optimal level of stress is different for each individual. According to the Yerkes-Dodson law or inverted U hypothesis, the workload and stress levels form an inverted U relationship (Yerkes & Dodson, 1908). The optimal stress level is somewhere between low stress and high stress. While this varies from individual to individual, at the optimal stress level the highest levels in performance are seen.

According to Travers and Cooper (1996) and based on Edwards & Cooper's (1990) person-environment fit theory, stress is believed to not be entirely a result of the environment stimulus or entirely a response to the environmental demands, but the interaction between the individual and the environment. There are five major factors contributing to the interactive model of stress: cognitive appraisal, experience, demand, interpersonal influence, and a state of imbalance (Travers & Cooper, 1996). Cognitive appraisal is the subjective perspective of the situation. Experience refers to the

individual's past experiences such as familiarity with the situation and previous exposure. Demand is the combination of perceived demands of the situation, perceived abilities, and actual abilities. Interpersonal influence takes into account the influence other individuals have on the stress, response and coping behaviors. State of imbalance refers to the imbalance between perceived demands of a situation and perceived abilities of the individual to meet those demands. When an imbalance occurs, the individual begins to engage in coping behaviors. When examining teacher stress it is important to examine: 1) sources of stress, 2) mediators of teacher-stress response, and 3) manifestations of teacher stress (Travers & Cooper, 1996). For the purposes of this study the first component of teacher stress will be investigated.

Models of Teacher Stressors

Although there have been numerous attempts to identify sources and symptoms of stress the results have frequently been inconsistent (Travers & Cooper, 1996). Much of this research is now outdated. The original studies on teacher stress identified four major areas that were sources of stress for teachers: pupil misbehavior, poor working conditions, time pressures, and poor school ethos (Kyriacou & Sutcliffe, 1978). Further research studies identified the main sources of stressors being: teaching pupils who lack motivation, maintaining discipline, time pressures and workload, coping with change, being evaluated by others, dealing with colleagues, self-esteem and status, administration and management, role conflict and ambiguity, and poor working conditions (Travers & Cooper, 1996; Benmansour, 1998; Pithers & Soden, 1998).

The Cooper (1986) model of occupational stress outlines six categorical causes of stress related to work:

1. Stressors intrinsic to the actual job: physical working conditions, work overload and work underload, working long hours, the school day.

2. Role in organization: role ambiguity, role conflict, role overload and underload, responsibility for others, role preparedness, the role of senior managers in teaching

3. Relationships at work: relationships with colleagues, relationships with pupils, school characteristics, relationships with management

4. Career development: lack of job security, status incongruence, occupational "locking-in"

5. Organizational structure and climate: participation in decision making, performance appraisal, organizational culture

6. Home and work interference: dual-career couples, relationship between work and family.

This model of occupational stress helps to categorize and group types of stress experienced by those in relation to the field of work. This model can be applied to multiple job settings including the teaching profession. This model of occupational stress can help guide the investigation of sources of stress and aid in making the survey comprehensive.

Swick and Hanley (1980) identify the sources of stress through three broad categories specific to the teaching profession: environment, interpersonal, and intrapersonal. Environmental factors include things such as working conditions, inadequate materials, frequent interruptions, job security, job mobility, small classroom, large class size, federal regulations, and scheduling. Interpersonal stressors include relationships with

students, parents, administrators and staff, classroom and behavior management, negative

reactions from others, professional organizations, and meeting the needs of all children

including special needs children in the classroom. The last area, intrapersonal, includes

the stressors associated with the teacher's education, classroom skills, self-concept, lack

of self-fulfillment, feeling unappreciated and motivation.

In the last decade research has explored managing classroom behavior and

behavior of students as main stressors for elementary through high school teachers

(Tsouloupas, Carson, Matthews, Grawitch, & Barber, 2010). Skaalvik and Skaalvik

(2010) explored the concepts of teacher self-efficacy and burnout in relation to school

context variables of elementary and middle school teachers in Norway. These variables

included discipline problems, time pressure, relations to parents, autonomy, and

supervisory support.

Middle School Teacher Stress

The middle school environment is one that is different from both high school and

elementary school. It is a time where students develop physically, emotionally, and

socially. Students are first transitioning into more independence in schooling. Teachers at

this level are often collaborating with other grade level teachers who also teach the same

students. The teachers must simultaneously teach to the level of the pre-adolescent

student and prepare the students for high school (Beane, 1993; Wiles & Bondi, 2001).

Skillern et al (1990) evaluated the stress levels of middle school teachers at three new

middle schools. The teachers were asked to complete a forced choice likert scale survey

of level of stress related around the given stressor. The survey consisted of the following

potential stress inducing events rated by the teachers: assemblies, classroom paperwork,

competition between schools, Community/PTO/PTA meeting, conducting

interdisciplinary units, constructing interdisciplinary units, custodial services, exploratory

content, exploratory finances, exploratory grading, extra-curricular activities, faculty

meetings, field trips, flexible library scheduling, flexible team scheduling, intra-school

communication, length of school day, lesson preparation, lunchroom program, parent

conferences as a team, pupil/teacher ratio, school/community communication, school day

length, sports activities, student placement, team building activities, team level

paperwork, team meetings, testing, working as an entire faculty, working with the

administration, working with other teams, working with related arts, working with team

members. At the first school the top five stressors were intra-school communication,

constructing interdisciplinary units, classroom paperwork, extra-curricular activities, and

conducting interdisciplinary units. The top five stressors at school number two were

school day length, exploratory content, constructing interdisciplinary units, and

classroom paperwork. School number 3 rated school day length, classroom paperwork,

intra-school communication and exploratory content as the top five stressors. While some

of the results of this survey are unique to the system based on introduction of middle

schools to the system, many of these factors remain relevant for teachers today. The goals

and methodology of the Skillern (1990) survey is similar to the current study.

Davidson (2009) investigated the contributing factors to the stress and burnout

felt by three middle school teachers. The study focused on three areas of potential stress:

heavy workloads, student discipline and interaction problems in the classroom, and

finally issues that are exasperated by No Child Left Behind. Teacher workload included

excessive paperwork, unfair workloads, resources and supplies, and increased workloads for administrators.

While these areas have been identified as the main sources of stress for teachers at large, it's important to acknowledge that each individual experiences different sources of stress to different degrees. However, previous research has mixed findings regarding significant correlations between age, sex, teaching experience, and level of qualification and perceived stress (Hiebart & Farber, 1984; Kyriacou & Sutcliffe, 1979).

Teacher Burnout

Burnout is defined as "progressive loss of idealism, energy, purpose, and concern as a result of conditions at work" (Farber, 2001). Burnout is often associated with emotional exhaustion, depersonalization, and reduced personal accomplishment (Skaalvik & Skaalvik, 2010). Burnout is strongly felt in the teaching profession. Researchers have reported that 60% of teachers planned to remain in the profession until retirement and that 10% of teachers drop out each year. Farber (2001) has suggested that teacher burnout is the result of stressors regarding student discipline problems, student apathy, overcrowded classrooms, shortages of support staff, excessive paperwork, excessive testing, involuntary transfers, inadequate salaries, lake of promotional opportunities, demanding parents, lack of administrative support, role conflict and role ambiguity and public criticism of teachers.

Shirom, Oliver, and Stein (2009) explored the relationship between stressors and psychological strain or an "enduring deviation from normal responses, including negative affective states that may lead to impaired physical and/or mental health" (p. 314). Included in their definition of strain in relation to teachers is burnout, somatic complaints,

and intrinsic and extrinsic job dissatisfaction. Besides the impact on job performance in the classroom, high levels of emotional exhaustion have also been found to be associated in impairment in well-being and health (Tsouloupas, Carson, Matthews, Granwich, & Barber, 2010)

According to Olson and Matuskey (1982), "for burnout to fully be understood it is necessary to identify stress factors that may evolve from various sources within the classroom, within the educational or administrative structures, or from the interaction between the occupation and private life" (p. 92). This study proposes to understand these stress factors in order to aid in the understanding of teacher stress for the administration personnel.

Impact of Stress

The impact of stress can be felt by the individual, family, and organizations to which the individual is involved. Symptoms of stress can range from poor concentration to serious medical conditions (Dunham, 1984). Dunham (1984) describes three stages of stress reactions seen in teachers. In the initial stage the individual shows changes in behavior in an attempt to cope with the new stressor. If the coping behaviors are insufficient, the individual then reaches the frustration level where the individual shows an increase in anxiety and begins to question competency. As the individual's coping resources get used up, the individual will enter the final stage of exhaustion. Dunham (1984) examined the stress reactions among school staff at English and German schools. High levels of frustration were reported through the experience of irritability, displaced aggression, moodiness, tension headaches, apathy, and wanting to leave the profession. Anxiety was reported to be experienced and reported to relate to loss of sleep, over-

eating, and poor concentration. Those participants with the highest levels of experienced

stress also reported feelings of exhaustion, loss of contact with individuals outside of

school, and withdrawal from contact with staff within the school (Dunham, 1984). One

individual described his experience of stress across the school year reporting the changes

in stress reactions from the beginning of the year where he experienced anger and

frustration to the end of the year where he experienced utter exhaustion. This study will

begin to examine changes in teacher stress over the course of the year by collecting

qualitative responses regarding the time of year when stress is most experienced. This can

help to guide the implementation of interventions when it is most needed.

Table 1

Symptoms of Negative Stress

Physical	Emotional	Mental	Social
Rashes	Crying	Lack of interest	Lack of grooming
Headaches	Anxiety	Forgetfulness	Isolation
Teeth grinding	Frustration	Poor concentration	Loneliness
Fatique	Nervousness	Low productivity	Lashing out
Colds	Depression	Negative attitude	Clamming up
Back and neck aches	Worry	Confusion	Lower sex drive
Stomach problems	Tension	No new ideas	Nagging
Insomnia	Mood Swings	Lethargy	Fewer contacts
Increased drug use	Irritability	Easily discouraged	Using people
Hair loss			
Eating disorder			
Muscle pain			
Palpitations			
Fainting			
Choking			
Tremors and twitching			

Joseph (2000) describes the impact of stress on physical, emotional, mental, and

social health. See Table 1 above containing a list of consequences from levels of negative

stress. In the work field, the impact of stress can result in increased absenteeism, reduced output, lack of concentration, poor decision making, less enthusiasm, and lower morale. Joseph (2000) found that students suffered from reduced teaching and assessment time and lower morale as a result of increased administrative duties required by teachers.

Role of the School Psychologist

As a consultant to both teachers and administrators and a voice for overall wellness and mental health, it is important for school psychologist to be aware of both the level of stress experienced and the sources of stress for the teachers they are interacting with. By better understanding the sources of stress experienced by teachers, administration can better target support or programming. The school psychologist can be a consultant with the administration regarding ways to support high stress inducing areas or can work directly with teachers to manage and cope with the stress.

Hypotheses

The purpose of this study was to identify sources of stress in order for administration and school psychologists to target supports and programming. The main goal of the study was to evaluate the current level of stress and sources of stress experienced by teachers. To further understand the impact of sources of stress, the survey attempted to identify both the frequency and intensity of stressors. The second goal of the study was to identify target groups who may experience greater stress than other teachers. Gender, subject area, and years of experience were assessed

Method

Participants

Voluntary participation was requested through a regularly scheduled faculty meeting where staff was introduced to the survey and provided a small incentive of candy for participation. The sample for this study consisted of 137 participants who began the study; however only participants who completed at least 60% of the survey were included in the data analysis, leaving 119 participants. The teachers were from three middle schools in a large system that includes both suburban and rural areas. The sample contained 26 male teachers and 93female teachers, from a variety of levels of experience ranging from 0 years to 40 years, with the mean being 12.75 years of teaching experience. Of the 119 participants, there were16 Math teachers, 9 Foreign Language teachers, 18 Language Arts teachers, 9 Physical Education teachers, 14 Related Arts teachers, 13 Science teachers, 16 Social Studies teachers, and 23 Special Education teachers.

Measures

A questionnaire was designed by the primary researcher incorporating organizational stress theory and previous research items. The questionnaire analyzed stressors on two levels: the individual item and the domain. The domains were selected from the Swick and Hanley (1980) model of organizational stress. The three domains are Environment, Interpersonal, and Intrapersonal. Environmental factors encompass the innate aspects of the job itself that impact levels of stress. Interpersonal factors refer to the relationships and interactions with others involved at work. Intrapersonal factors include the aspects associated with the individual's perception of themselves and their abilities. This area includes personal characteristics, as well as, dynamics of the individual's personal life. To better define these domains elements of the Cooper model

of organizational stress was organized under the three domains being used in this study.

Table 2 presents the items that correspond with each domain area listed in Appendix A.

Table 2	
Domain Categories and Corresponding Item Numbers	
Domain	Item Number
Environment	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27,28, 32, 50, 51, 52, 53
Interpersonal	11, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 46, 47, 48, 49
Intrapersonal	44, 54, 55, 56

Items from multiple previous surveys were gathered and repetitions were

removed. Items were then grouped into three domains based on association. Additional

items were added to address recent developments in the field of education. Feedback

from current teachers and a graduate professor and middle-school consultant in the

Secondary Education Department was incorporated into the survey.

Additionally, both demographic and qualitative questions were included to further

gain understanding of stressors and guide future research in the area. Participants were

asked to describe times during the year when stress was higher than other times.

Procedures

The school system is located in a large system comprised of both rural and

suburban areas in the mid-east. The school system is composed of 52 elementary schools,

13 middle schools, 12 high schools, and 2 instructional centers with approximately 4,800

teachers. Three of the 13 middle schools were selected based on interest and approval from school principals. The survey was administered in February and March and was available to teachers for 3 weeks. An introduction to the research study and a request to complete the survey was made at the regularly scheduled staff meeting in each school. The survey was administered electronically through an email containing the link forwarded by the school principal. The electronic survey contained a more detailed explanation of the study and consent form before survey items began. The participants were ensured that their information will remain anonymous and only the final analysis of data will be shared with administration and school personnel. The survey contained no identifying information. At the beginning of the third week, teachers received a reminder email that survey would only remain open for one more week. After the time period the survey was closed and the link became inactive.

Analyses

Descriptive statistics were collected for each item providing the mean on both scales. An overall mean was identified for the average level of stress felt collectively by all stressors. Further, the mean for each of the three domains was identified. The stress levels were compared to the collected demographic information. An independent t-test was conducted to analyze differences in levels of stress between genders. A bivariate correlation was conducted to assess the relationship between years of experience and levels of stress. A between subjects ANOVA was conducted to analyze the levels of stress between the subject areas being taught.

<div align="center">Results</div>

Descriptive analyses

The mean stress level of all participants was reported to be 3.42 on a scale from one-not stressed to five-extremely stressed. Ninety-eight percent of teachers reported that stress varied by time of year. These times included: end of the grading period, time surrounding standardized testing, the beginning of the year, during the school budget sessions, interims, exam week, semester changes, time surrounding breaks, October, February, and March. The most frequent five stressors, as organized by the mean stress level reported when given a scale from 1-not stressed to 5-extremely stressed, for teachers were the amount of paperwork (mean=3.76, 61.4% reported high or intense stress), the overall workload (mean=3.74, 61% reported high or intense stress), time pressures: deadlines (mean=3.55, 52.9% reported high or intense stress), balancing home and work life (mean=3.55, 49.5% reported high or intense stress), and teaching to and motivating unmotivated students (mean=3.53, 54.6% reported high or intense stress).The five least frequent stressors reported by teachers were interacting with community organizations (mean=1.58, 2.6% reported high or intense stress), technology: using technology to communicate with others (mean=1.67, 1.7% reported high or intense stress), interactions with colleagues: teachers outside of the subject area (mean=1.81, 1.7% reported high or intense stress), competition between schools in the district (mean=1.81, 5% reported high or intense stress), and interactions with colleagues: non-teachers, guidance, psychologist, nurse, etc. (mean=1.85, 5.1% reported high or intense stress). In terms of the degree of stress felt the five most stressful items were the amount of paperwork (mean=3.64, 55.4% reported high or intense stress), the overall workload (mean=3.64, 54.6% reported high or intense stress), time pressures: deadlines (mean=3.64, 57.6% reported high or intense stress), balancing home and work life

(mean=3.62, 51.7% reported high or intense stress), and teaching to and motivating

unmotivated students (mean=3.51, 52.2% reported high or intense stress). The five least

stressful items with regards to the degree of stress experienced were interacting with

community organizations (mean=1.31, 0% reported high or intense stress), building

relationships with students (mean=1.95, 8.1% reported high or intense stress),

interactions with colleagues: teachers outside of my subject area (mean=2.00, 10.3%

reported high or intense stress), technology: using technology to communicate

(mean=2.04, 8.4% reported high or intense stress), and interactions with colleagues: non

teachers, guidance, psychologists, nurse, etc. (mean=2.07, 13.3% reported high or intense

stress).

Gender Differences

The overall level of stress was compared between male and female respondents.

There was not a significant difference in the scores of overall stress level for males

(M=3.23, SD=0.95) and females (M=3.61, SD=0.91); t(116)=-1.42, p = 0.16). These

results suggest that gender does not impact the overall level of stress experienced by

these teachers.

Years of Teaching Experience

A bivariate correlation was conducted to determine if a relationship existed between

years of experience in teaching and the overall level of stress. A very weak correlation

was found between the years of teaching experience and the overall level of stress felt

(r=.095, n=116, p=.313).
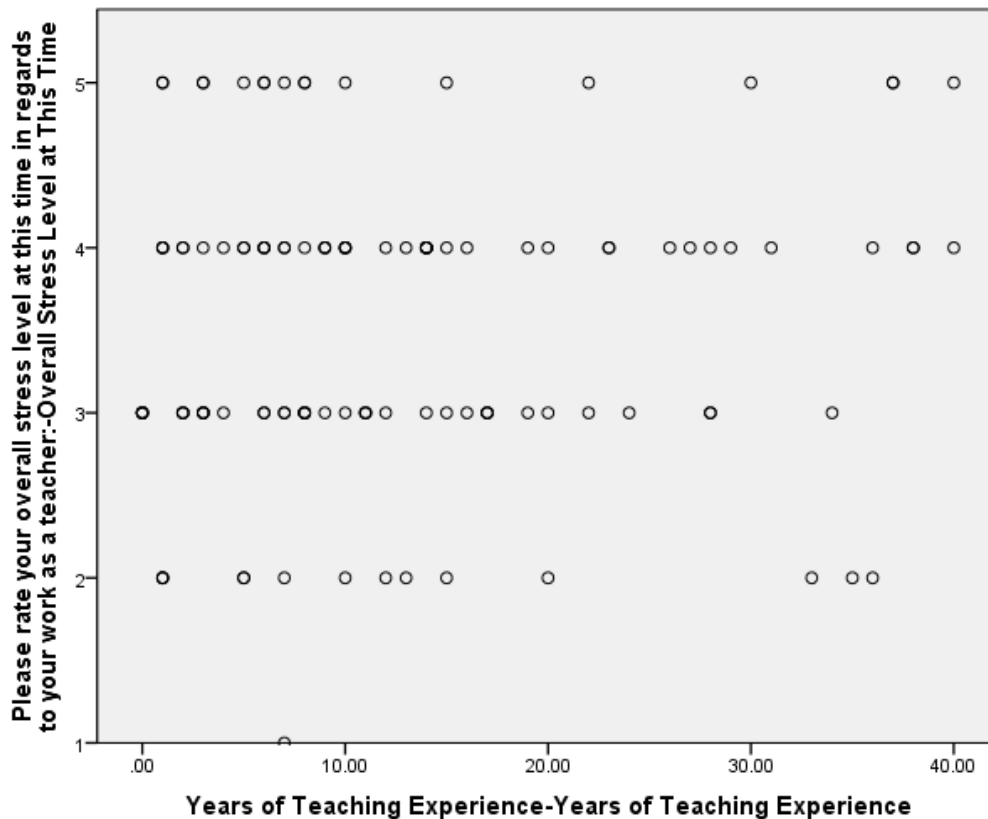
Figure 1. Scatter plot for Years of Teaching Experience and Overall Level of Stress

Subject Area Taught

A between-subject ANOVA was conducted to determine differences in overall levels of stress depending on the subject area taught by the participant. The mean stress level for all teachers was reported to be 3.42 using a scale from 1-No Stress to 5-Extremely Stressed. Foreign language teachers reported the highest level of stress, followed by science, math, special education, social studies, related arts, language arts, and physical education. There was a significant effect of the subject area taught on overall level of stress at the p<.05 level for the three conditions [$F(7, 117) = 2.77$, p = .011]. Physical education teachers reported the lowest level of stress which varied significantly from the science teachers (p=.034) and foreign language teachers (p=.029) who reported the two highest levels of stress.
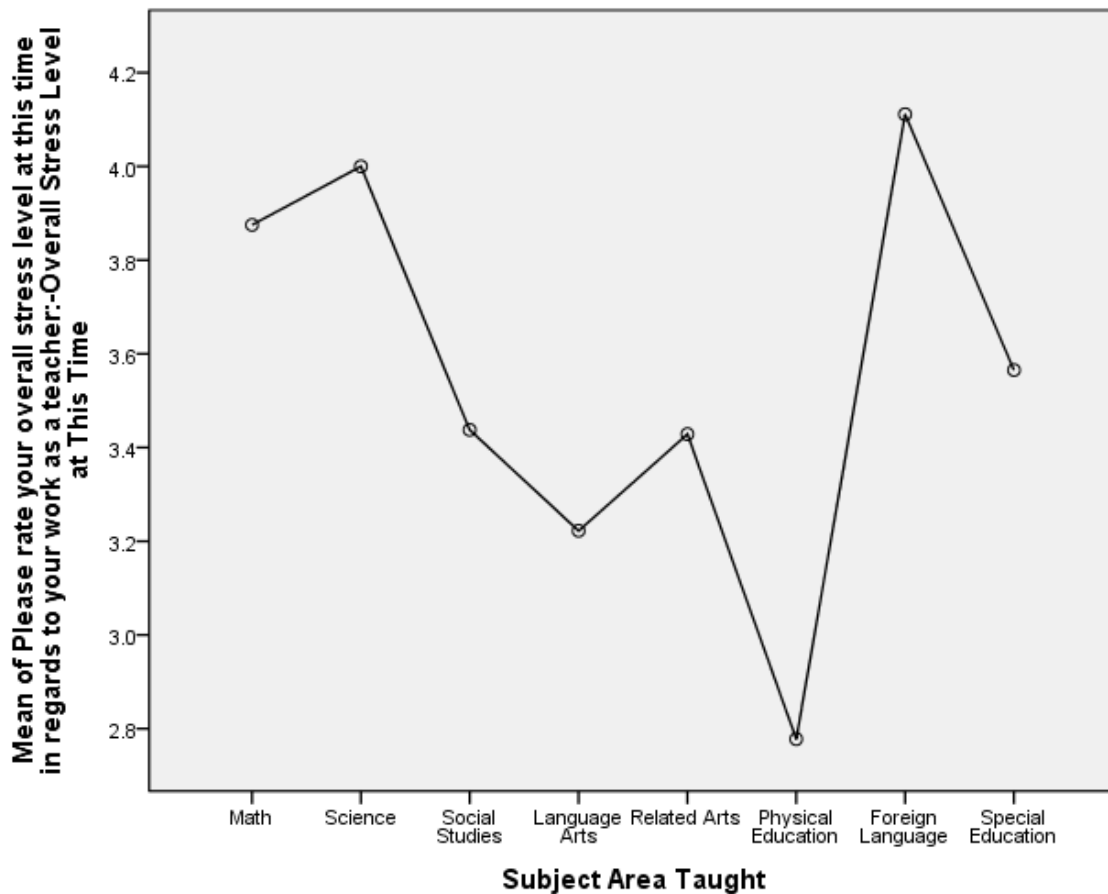
Figure 2. Line graph of Subject Areas Taught and Overall Level of Stress

Environmental, Interpersonal, and Intrapersonal

The mean ratings were compared between items related to environmental factors, interpersonal factors, and intrapersonal factors. With regards to the frequency the items caused stress, no differences were found between environmental (mean=2.60), interpersonal (mean=2.52), and intrapersonal factors (mean=2.44). Similarly, no differences were found between environmental (mean=2.81, interpersonal (mean=2.78), and intrapersonal factors (mean=2.73) with regards to the degree of stress caused by each item.

Discussion

Overall, teachers reported moderate levels of stress. Stress levels varied widely for individuals within the same school building and system with a range from "extremely stressed" to "not stressed". This implies that interventions and support may need to be further targeted or even individualized. In utilizing the Yerkes-Dodson model of stress and performance, an overall moderate level of stress would indicate optimal performance. However, numerous teachers reported stress levels in the "very stressed" and "extremely stressed" range. This is consistent with previous findings reporting that a quarter of all teachers stated they were very stressed or extremely stressed (Kyrizcou, 2001). Implications for reported high levels of stress include physical, mental, emotional, and social effects. Additionally, high levels of stress can impact job performance and retention. Variability in the levels of stress felt between teachers may impact the ability to connect with and relate to other staff. Therefore, a program targeting stress reduction may help individuals with high levels of stress connect with other teachers feeling similar levels of stress. Differences were reported in the levels of stress associated with different stressors and trends were identified. Teachers appeared to be most stressed by the aspects innate to the job such as: workloads, deadlines, and paperwork. Deadlines and workload were found to be high sources of stress in previous literature (Travers & Cooper, 1996; Benmansour, 1998; Pithers & Soden, 1998). Addressing aspects, such as workload, deadlines, and paperwork may involve systems level changes to procedures and system organization. Administration can begin to make attempts at decreasing paperwork and being cognizant when selecting and enforcing deadlines.

Areas that were predicted to be higher areas of stress such as technology, legislation, and job security were not found to be among the top five sources of stress.

Technology fell within the lower half of the stressors when comparing mean responses. One aspect of technology, communication, was found to be one of the five least stressful items on the survey. Over the past few years, the school system has been increasing the amount of technology used and is leading the state in the implementation of technology with regards to assistive technology. Therefore, teachers have had frequent exposure and training and using technology. Legislation, such as the Standards of Learning assessments and Annual Yearly Progress were found to be moderate sources of stress overall. Therefore, despite the increasing emphasis on standardized testing, teachers do not perceive this as the most stressful aspects of their job. One possible explanation is related to the time of year when the survey was administered. For this study, the survey was administered prior to the state standardized testing and prior to receiving the results. The level of stress associated with standardized testing may increase closer to the time of the testing. However, preparing for and teaching to the Standards of Learning is not one of the most frequent or intense stressors throughout the entire year. Similar to the effect of having an overall moderate level of stress, a moderate level of stress surrounding the standardized testing, may allow for optimal preparation, performance, and teaching. Given that the mean rating falls within the mid-range for level of stress, some of the teachers reported high stress levels related to standardized testing. Therefore, it is important to target and identify teachers that may be more stressed about the testing than others. Teachers reported minimal stress in dealing with outside organizations, building relationships with students, and interacting with other individuals within the building. The low levels of stress in these areas imply an area of strength for the teachers or for the

school system. These potential sources of stress may be an area to provide teachers with praise and affirmation.

No significant differences were seen between genders in the level of stress. This is consistent with previous research that did not identify any gender differences in level of teachers stress. Additionally, no relationship was found between the level of stress and years of teaching experience. Significant differences were found in levels of stress dependent on the subject area taught. Physical education teachers varied significantly from foreign language and science teachers. Foreign language teachers reported the highest level of stress at the time, followed by science teachers. Physical education teachers reported the least amount of stress currently. Physical education teachers often engage in physical activity as part of their job requirements. This can be a form of natural stress relief and may be a reason for lower reported levels of stress. However, in the qualitative analysis, some physical education teachers reported the use of the physical education space for other school activities was an additional source of stress not included in the survey. Additionally, no differences were found between environmental, interpersonal, or intrapersonal factors. However, for both frequency and degree of stress environmental factors were the highest as predicted. Similarly, intrapersonal factors were the lowest with regards for both degree and frequency of stressors. This is consistent with previous research that reported the highest stressors to be environmental factors. This may be a result of the limited number of items in the area of intrapersonal factors compared to environmental and interpersonal factors.

Implications for school psychologist

The information collected for the study can be used by school psychologist and administration in the planning and implementation of teacher wellness programming, support from administration, and professional development. While some aspects, such as paperwork, deadlines, etc. may not feasible aspects to change quickly within the school, more support and encouragement can be provided. Changes at the system and state level may better address and alleviate some of the paperwork, deadlines, and overall workload. In the school, some topics such as motivating unmotivated students, which fell among the top five sources of stress, can be included as a professional development topic or a topic the school psychologist can provide resources for teachers. School psychologist have access to information on motivation and engagement and could provide useful information at a school wide level, classroom level, or individual student level. Teacher wellness programs can provide the opportunity to make connections between teachers in the building that may share common levels and sources of stress. This has the potential to provide a support outlet for teachers experiencing high levels of stress. By targeting the topics, specific to the schools needs, can allow the information to be the most beneficial to the largest population of individuals. Each level of schooling is unique, as such, addressing aspects unique to the middle school environment can alleviate stress and improve performance at the middle school level. Another area of need that would be appropriate for a teacher wellness program is balancing home and work life. One implication for the variation in levels of stress between subject areas is that teachers may need different support and intervention dependent upon the subject area taught. Each system is organized in a different way. It may be essential to make connections between

teachers within a subject area in systems where the middle school teachers organize by grade instead of subject.

Limitations

This study was limited by the number of participants. Only three schools participated in the program. Additionally, all three schools were from the same school district, where they share common procedures and systems. Therefore, the information collected for this study is not generalizable to any population outside of the school system. The study was also only administered at one point during the school year, which limits the window in which stress levels are captured. Stress can vary from day to day. Therefore, information from a variety of points during the school year would be essential to better understanding the level of stress on any given day.

Future Research

Future research may wish to further investigate how the different groups varied in stress levels between the individual items. Further investigation into the relationship between subject area taught and level of stress is necessary to determine if the pattern is consistent in other school buildings or unique to this population of participants. Additionally, the majority of respondents reported that stress levels varies across the school year. The survey may be useful if administered at different times during the school year. This survey was administered during a time that was reported to be especially stressful for teachers. Therefore, for future research it would be beneficial to examine sources of stress during varied times during the year.

Appendix A

Gender: Male   Female

Years of Teaching Experience: _____

Subject Area: Math   Science   Language Arts   Social

Studies

                        Related Arts   Physical Education   Foreign Language   Special

        Education

Grade Level: 6   7   8   N/A

Please rate your overall stress level at this time in regards to your work as a teacher:

_____

1   2   3   4

        5

Not Stressed   Moderately Stressed   Very
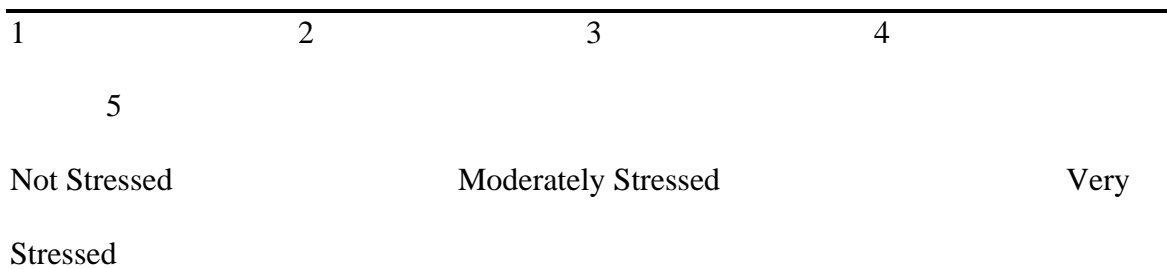
Stressed

Are there times during the year when you feel more stressed than other times? If yes,

please list or explain when those times are by month.

Of the following aspects of the teaching profession please rate each item in how frequently it causes stress for you personally, as well as the level of stress experienced. How frequently is this a source of stress for you?

1-Never , 2-Rarely 3-Occasionally 4-Frequently 5-Almost Always

For responses 3 or higher, to what degree is stress felt?

1-Minimal Stress 2-Slight Stress 3-Moderate Stress 4- High Stress 5-Intense stress

1. The availability of resources

2. The number of students in each of my classes

3. The physical classroom

4. Number of hours of work required each day

5. The amount of paperwork I must complete

6. Appropriateness of student placement in my classes

7. Making student placement decisions

8. Time pressure:Deadlines

9. Competition between schools in the district

10. Teaching to and motivating unmotivated students

11. Support from administration and management

12. The overall workload

13. Writing and preparing lesson plans

14. Testing: Benchmark

15. Testing: Teacher Created

16. Testing: Administration Required Testing

17. Standards of Learning: Teaching to the standards

18. Standards of Learning: Preparing students for the test

19. Standards of Learning: The outcome of the results

20. Standards of Learning: Student's performance

21. Standards of Learning: Motivating students for the test

22. Annual Yearly Progress

23. Technology: Using technology in instruction

24. Technology: Helping students use technology for class activities

25. Technology: Using technology in testing

26. Technology: Using technology to communicate with others

27. Technology: Using technology in tracking and submitting grades

28. Technology: Upkeep and Managing of Website

29. Technology: Access to equipment (i.e. copier, laminater)

30. Disciplining individual students

31. Building relationships with students

32. Managing behavior of the entire classroom

33. Communication with parents: Over the phone

34. Communication with parents: Conducting parent conferences

35. Communication with parents: Via email

36. Communication with parents: Facilitating parent communication

37. Interactions with Colleagues: Teachers within my subject area

38. Interactions with Colleagues: Teachers outside my subject area

39. Interactions with Colleagues: Non-teachers, guidance, psychologist, nurse, etc.

40. Support from building level administration

41. Being evaluated by building level administration

42. Support from district level administration

43. Interacting with community organizations

44. Balancing home and work life

45. Faculty meetings: Frequency of meetings

46. Faculty meetings: Length of meetings

47. Faculty meetings: Participation in meetings

48. Team meetings

49. Scheduling of shared space (computer lab, etc.)

50. Addressing needs of all students in the class

51. Teaching students of cultural backgrounds different from my own

52. Opportunity for career development

53. Meeting Recertification Requirement

54. Preparedness felt for job requirements

55. Appreciation expressed by others

56. Personal Sense of satisfaction felt from job

Appendix B

Table 3				
Mean ratings across participants for the frequency of stressor				
Of the following aspects of the teaching profession please rate each item in how frequently it causes stress for you personally, as well as the level of stress experienced.	How frequently is this a source of stress for you? 1-Never 2-Rarely 3-Occasionally 4-Frequently 5-Almost Always	Percentage of respondents reporting levels 1 or 2- Minimal Stress	Percentage of respondents reporting level 3- Moderate Stress	Percentage of respondents reporting levels 4 or 5- High Stress
1. The availability of resources	2.45	55.4	36.1	8.4
2. The number of students in each of my classes	3.00	31.9	35.3	31.9
3. The physical classroom	2.19	67.2	20.2	11.8
4. Number of hours of work required each	3.17	28.6	34.5	37

day				
5. The amount of paperwork I must complete	3.76	9.2	29.4	61.4
6. Appropriateness of student placement in my classes	3.22	22.7	37	39.9
7. Making student placement decisions	2.30	61.5	29.1	9.4
8. Time pressure:Deadlines	3.55	16	31.1	52.9
9. Competition between schools in the district	1.81	80.6	14.3	5
10. Teaching to and motivating unmotivated students	3.53	19.3	26.1	54.6
11. Support from administration and management	2.90	35.6	39	25.4
12. The overall	3.74	11.8	27.1	61

workload				
13. Writing and preparing lesson plans	3.02	35.6	27.1	37.3
14. Testing: Benchmark	2.29	63.5	21.2	15.2
15. Testing: Teacher Created	2.47	41.6	25.6	12.7
16. Testing: Administration Required Testing	2.56	52.5	25.4	22
17. Standards of Learning: Teaching to the standards	2.95	38.2	28	33.9
18. Standards of Learning: Preparing students for the test	2.97	34.7	31.4	33.9
19. Standards of Learning: The outcome of the results	2.91	41.9	23.1	35.1
20. Standards of Learning: Student's	2.98	39.8	22.9	37.3

performance			
21. Standards of Learning: Motivating students for the test	3.01	33.9	30.5	35.6
22. Annual Yearly Progress	2.35	61.2	26.7	12.1
23. Technology: Using technology in instruction	2.31	59.3	30.5	10.2
24. Technology: Helping students use technology for class activities	2.18	64.4	31.4	4.2
25. Technology: Using technology in testing	2.04	71.8	21.4	6.9
26. Technology: Using technology to communicate with others	1.67	89	9.3	1.7
27. Technology: Using technology in	2.54	51.7	28.8	19.5

tracking and submitting grades			
28. Technology: Upkeep and Managing of Website	2.58	48.3	34.7	17
29. Technology: Access to equipment (i.e. copier, laminater)	2.41	57.6	25.4	17
30. Disciplining individual students	3.22	31.4	26.3	42.4
31. Building relationships with students	2.04	53.8	22	4.2
32. Managing behavior of the entire classroom	2.96	29.7	46.6	23.8
33. Communication with parents: Over the phone	2.75	41.5	39	19.5
34. Communication with parents:	2.47	57.6	29.7	12.7

Conducting parent conferences				
35. Communication with parents: Via email	2.36	58.1	31.6	10.3
36. Communication with parents: Facilitating parent communication	2.37	60.2	49.7	10.1
37. Interactions with Colleagues: Teachers within my subject area	1.97	85.4	14.4	10.1
38. Interactions with Colleagues: Teachers outside my subject area	1.81	84.7	13.6	1.7
39. Interactions with Colleagues: Non-teachers, guidance, psychologist, nurse, etc.	1.85	81.4	13.6	5.1
40. Support from	2.45	55.1	28	16.9

building level administration			
41. Being evaluated by building level administration	2.75	43.6	40.2	16.2
42. Support from district level administration	2.24	65.2	23.7	11
43. Interacting with community organizations	1.58	93.2	4.3	2.6
44. Balancing home and work life	3.55	16.3	34.2	49.5
45. Faculty meetings: Frequency of meetings	2.67	50.8	34.6	24.6
46. Faculty meetings: Length of meetings	2.88	43.2	35.4	31.3
47. Faculty meetings: Participation in meetings	2.22	70.4	15.3	14.4
48. Team meetings	2.18	70.1	17.1	12.8
49. Scheduling of	2.29	59.4	29.7	11

shared space (computer lab, etc.)			
50. Addressing needs of all students in the class	3.32	22.5	30.2	47.5
51. Teaching students of cultural backgrounds different from my own	2.04	74.6	18.6	6.8
52. Opportunity for career development	2.04	72	22	5.9
53. Meeting Recertification Requirement	2.15	66.1	27.1	6.7
54. Preparedness felt for job requirements	2.01	74.3	19.7	6
55. Appreciation expressed by others	1.96	77.7	13.4	8.9
56. Personal Sense of satisfaction felt from job	2.22	65.3	17.8	16.9

Table 4

Mean Ratings Across Participants for the Degree of Stress Felt

	For responses 3 or higher, to what degree is stress felt? 1-Minimal Stress 3-Moderate Stress 5-High stress	Percentage of respondents reporting levels 1 or 2-Minimal Stress	Percentage of respondents reporting level 3-Moderate Stress	Percentage of respondents reporting levels 4 or 5-High Stress
1. The availability of resources	2.39	50	43.5	6.5
2. The number of students in each of my classes	2.96	35.1	37.7	27.3
3. The physical classroom	2.32	60.9	22	17
4. Number of hours of work required each day	3.37	19	40.5	40.5
5. The amount of	3.64	14.9	29.7	55.4

paperwork I must complete				
6. Appropriateness of student placement in my classes	3.22	25.3	39.8	35
7. Making student placement decisions	2.70	46.6	30.2	23.3
8. Time pressure:Deadlines	3.64	17.4	25	57.6
9. Competition between schools in the district	2.09	67.6	23.5	8.8
10. Teaching to and motivating unmotivated students	3.51	20.6	27.2	52.2
11. Support from administration and management	3.09	24.4	45.9	29.7

12. The overall workload	3.64	15.4	29.9	54.6
13. Writing and preparing lesson plans	3.13	26.3	39.5	34.2
14. Testing: Benchmark	3.04	33.4	31.3	35.5
15. Testing: Teacher Created	2.68	49.2	27.1	23.7
16. Testing: Administration Required Testing	2.92	37.3	30.5	32.2
17. Standards of Learning: Teaching to the standards	3.22	25.4	34.2	40.5
18. Standards of Learning: Preparing students for the test	3.32	30.3	23.7	46.1
19. Standards of	3.42	22.3	26.9	50.8

Learning: The outcome of the results				
20. Standards of Learning: Student's performance	3.40	23.6	27.8	48.6
21. Standards of Learning: Motivating students for the test	3.38	23.1	28.2	48.7
22. Annual Yearly Progress	2.73	45.1	29.4	25.5
23. Technology: Using technology in instruction	2.35	65.5	12.7	21.8
24. Technology: Helping students use technology for class activities	2.42	52.1	35.4	12.6

25. Technology: Using technology in testing	2.52	50	33.3	16.7
26. Technology: Using technology to communicate with others	2.04	66.7	25	8.4
27. Technology: Using technology in tracking and submitting grades	3.03	36.2	32.8	31
28. Technology: Upkeep and Managing of Website	2.70	45.9	29.5	24.6
29. Technology: Access to equipment (i.e. copier,	2.48	56	20	24

laminater)				
30. Disciplining individual students	3.49	16.4	35.4	48.2
31. Building relationships with students	1.95	76.5	18.9	8.1
32. Managing behavior of the entire classroom	2.86	33	45.6	21.5
33. Communication with parents: Over the phone	2.90	37.1	35.6	27.1
34. Communication with parents: Conducting parent conferences	2.56	50	30.8	19.2
35. Communication with parents: Via email	2.39	53	31.4	15.7
36. Communication with parents:	2.43	51	33.3	15.7

Facilitating parent communication				
37. Interactions with Colleagues: Teachers within my subject area	2.44	56.4	23.1	20.5
38. Interactions with Colleagues: Teachers outside my subject area	2.00	75.9	13.8	10.3
39. Interactions with Colleagues: Non-teachers, guidance, psychologist, nurse, etc.	2.07	73.4	13.3	13.3
40. Support from building level	3.00	32.6	36.7	30.6

administration				
41. Being evaluated by building level administration	3.06	34.4	32.8	32.8
42. Support from district level administration	3.12	27.5	45	27.5
43. Interacting with community organizations	1.31	93.8	6.3	0
44. Balancing home and work life	3.62	16.9	31.5	51.7
45. Faculty meetings: Frequency of meetings	3.11	35.2	25.9	38.9
46. Faculty meetings: Length of meetings	3.09	37.9	24.2	37.8
47. Faculty meetings:	2.76	44.7	21.1	34.3

Participation in meetings				
48. Team meetings	2.61	46.3	31.7	22
49. Scheduling of shared space (computer lab, etc.)	2.54	44	42	14
50. Addressing needs of all students in the class	3.26	22.2	35.6	42.2
51. Teaching students of cultural backgrounds different from my own	2.18	67.6	20.6	11.7
52. Opportunity for career development	2.33	48.7	38.5	12.9
53. Meeting Recertification Requirement	2.36	50	40.9	9

54. Preparedness felt for job requirements	2.17	63.9	22.2	13.9
55. Appreciation expressed by others	2.24	51.7	37.9	10.3
56. Personal Sense of satisfaction felt from job	2.87	34.7	37	28.2

Table 5
Comparrison of Environmental, Interpersonal, and Intrapersonal Factors

Domain Area	Frequency of Stress	Degree of Stress Felt
Environmental	2.60	2.81
Interpersonal	2.52	2.78
Intrapersonal	2.44	2.73

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