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ABSTRACT

Whether different amounts of general job stress and stress related to the Alabama Performance-Based Accreditation Standards were experienced by teachers and principals was studied in a sample of 65 principals and 242 teachers from 9 Alabama school systems. All subjects completed the Alabama Performance-Based Accreditation Standards Stress Measure, and the Measure of Educator Stress, a general measure of job stress. Discriminant analysis was performed on the responses of 141 teachers and 39 principals. Teachers experienced more stress than principals, with largest sources of stress being job overload, relationships with students, salary and compensation, and subordinate-superordinate relationships. A performance-based accreditation system may be very helpful in school improvement, but to make its use less stressful, teachers should be extremely involved in plans for change. Staff development aimed at fostering a more internal locus of control should be promoted, with research to determine if changing the control orientation reduces stress. Five tables present analysis results. Forty-six references are included. (SLD)

THE DIFFERENCES IN TEACHERS' AND PRINCIPALS' GENERAL JOB STRESS AND STRESS RELATED TO PERFORMANCE-BASED ACCREDITATION

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THE DIFFERENCES IN TEACHERS' AND PRINCIPALS' GENERAL JOB STRESS AND STRESS RELATED TO PERFORMANCE-BASED ACCREDITATION

Theoretical Framework

Recent educational reform imperatives have intensified the push for accountability begun in the 1970s. The National Commission on Excellence in Education (1983) in their landmark report, A Nation at Risk, recommended that standardized tests "be administered at major transition points from one level of schooling to another" (p. 28) for the purpose of certifying the student's credentials. Minimum competency testing has been developed by educators and adopted by many school systems and states as "a means of holding the school accountable for graduation of literate students who would at least be able to perform the basic skills of reading, writing, and arithmetic" (Beard, 1986, p. 1). Efforts have also been directed toward improving teacher education and staff development, curriculum, and instructional leadership with increased reporting to the general public concerning school progress and the use of funds (Buhler & Roebuck, 1987; Saterfiel & Woodruff, 1985).

Increased state control of educational programs has been reflected in the large number and scope of state-level reforms initiated since 1983 (Mitchell & Encarnation, 1984). A Nation at Risk reminded state governors, legislators, school board members, and local officials that they have "the primary responsibility

for financing and governing the schools" (National Commission on Excellence in Education, 1983, p. 12, emphasis in the original) and that they should develop educational policies and fiscal plans which embody the proposed reforms.

Performance-based accreditation has been adopted by a number of states as a means of assuring that local school systems are maintaining quality educational programs (Buhler & Roebuck, 1987; Saterfiel & Woodruff, 1985). Originally intended as a means of protecting the developing medical profession and combatting fraud and low quality medical education programs, accreditation has come to be used to certify that certain standards in educational programs have been met (Harcleroad, 1983). Alabama schools were subject to a new performance-based accreditation system for the 1990-1991 school year. The new system was based on performance standards derived from 62 standards which were developed for the Impact Study carried out in 10 school systems during 1989-1990. Some of the stated purposes of the performance-based accreditation system in Alabama are to "provide for verifying and reporting degrees of compliance with accreditation standards," to "serve as a vehicle for the continuous assessment and improvement of educational programs," to "inform the citizens regarding the status of public education.
district by district," and to "increase the performance level of students" (Alabama State Department of Education (ASDE), undated, p. 3).

In spite of the stated benefits of the Alabama Performance-Based Accreditation System, many educators may experience increased stress as a result of its implementation. Some researchers have found that increases in state-mandated programs are potentially stressful to teachers (Hoover-Dempsey & Kendall, 1982; Swick & Hanley, 1980). Alabama educators may find the 13 performance standards relating to student achievement and the 6 performance standards which address the assessment of student progress to be stressful. Also, educators may be stressed by the fact that local boards of education bear the responsibility of providing the funding necessary for meeting the standards (ASDE, undated). Buhler and Roebuck (1987) found that Texas teachers perceived personal stress to be very high and job satisfaction to be very low following the implementation of reform legislation. Higher perceived stress levels were associated with a lack of adequate support for reform and a sense of reduced "team spirit" among teachers, as well as lowered respect from the community.

Blackbourn and Wilkes (1987) averred that the educational reform movement has affected teachers' morale, increased their workload, and "pushed them toward their frustration level" (p. 1). While little research has been conducted on a single aspect of reform and its effect on educator stress, state and federal rules, regulations, and policies have been found to be stressful to administrators (Brimm, 1983; Gmelch & Swent, 1982; Manera & Wright, 1981b). Floerke (1988) studied stress factors in public school superintendents in Arkansas and found that for

all respondents the greatest stress producer was "complying with the new state standards." In addition, several researchers have found that "trying to gain public approval and/or financial support for school programs was very stressful to school administrators (Brimm, 1983; Gmelch & Swent, 1982; Manera & Wright, 1981b). Gmelch and Swent (1982) observed that "all members of the management team share many common stressors. What plagues superintendents, therefore, similarly plague other members of their team, from the central office to the schools (p. 26). In studies of administrators in Arkansas and Oregon, most respondents declared that at least 60% of their total life stress resulted from their jobs (Floerke, 1988; Gmelch, Koch, Swent, & Tung. 1982).

Stress has been defined as "a discrepancy between a problem or challenge and the individual's capacity to deal with or accommodate to it" (Mechanic, 1970, p. 111). Other researchers have added to this definition the condition that stress only occurs if the organism perceives the consequences of failure to cope with the demand to be important (Blase, 1986; Kyriacou & Sutcliffe, 1978; McGrath, 1970; Sells, 1970; Selye, 1974).

Kyriacou (1980) has offered a definition of occupational stress among teachers "as the experience by a teacher of unpleasant, negatively toned emotions such as anger, anxiety, depression, and tension resulting from aspects of the teacher's job (p. 113). In keeping with previous definitions of stress in general, Kyriacou (1980) agreed that the teacher's experience of

stress would depend on how he or she appraises the environment and on the coping resources he or she is able to utilize.

Teachers have reported their jobs to be very stressful in a number of studies. Involuntary transfer, dealing with disruptive students, notification of unsatisfactory work performance, being physically threatened by students, not having materials needed for instruction, provisions for individual students, time demands for work with individuals, need for counseling and guidance services, difficulty in dealing with children with emotional problems, and paperwork and other routine demands were reported as being highly stressful by teachers (Cichon & Koff, 1980; Dedrick, Hawkes, & Smith, 1981; Meinke, Couturier, Miller, & Miller, 1982; Mersky, 1983; Olander & Farrell, 1970). Role conflict and school factors--including isolation from colleagues, lack of social support, little access to decision making and influencing of policy, unmanageable workload, class size, the wide range of individual differences among students, lack of auxiliary services, inadequate facilities and teaching materials, assignments not related to teaching, and a variety of school system employment practices--have been identified by Phillips and Lee (1980) as important sources of teacher stress. Similar findings were reported for teachers in England by Kyriacou and Sutcliffe (1978). Clark (1980), in developing her Teacher Occupational Stress Factor Questionnaire, found job-induced stress as perceived by teachers to be "a multi-dimensional concept composed of five factors: (a) feelings of professional

inadequacy, (b) principal-teacher professional relationships, (c) collegial relationships, (d) group instruction, and (e) job overload" (p. 112). Blase (1984) identified a number of principal behaviors which contribute to stress in teachers.

Sources of administrator stress have been studied by a number of researchers in recent years. Koff, Laffey, Olson, and Cichon (1981) administered their Administrative Stress Events Inventory to a national sample of principals who ranked events related to teacher conflict highest on the scale. The highest-ranked events were forced resignations, unsatisfactory performance, preparing for a strike, and refusal to follow policies. Threats to job security or status also were given high rankings by the principals.

A large sample of nearly 1,200 Oregon school administrators was used for several related studies which were begun in 1977 (Gmelch & Swent, 1981, 1982; Gmelch, Koch, Swent, & Tung, 1982; Tung & Koch, 1980). Twelve top stressors were identified during the initial development of the instrument:

1. Complying with rules
2. Attending meetings
3. Completing reports on time
4. Gaining public support
5. Resolving parent-school conflicts
6. Evaluating staff
7. Decisions that affect others
8. Heavy work load

9. High self-expectations
10. Telephone interruptions
11. Participating in school activities outside normal working hours
12. Handling student discipline.

These findings were confirmed by later researchers (Brimm, 1983; Farkas, 1983; Gorton, 1982; Manera & Wright, 1981b; Williamson & Campbell, 1987).

Cooper, Sieverding, and Muth (1988) monitored heart rates of principals while at work in order to determine the managerial activities which had the strongest effect. The activities of "spokesperson . . disturbance handler," (p. 213) and "student supervision" (p. 213) ranked highest, with at least 75% of principals showing a stressed heart rate.

Manera and Wright (1980) asked 91 classroom teachers and public school administrators to rank educator job stress items, using a Q-Sort ranking instrument, and later replicated the study, adding 50 public school teachers, university professors, and state department personnel for a total of 141 educators in the sample (Manera & Wright, 1981a). The number one stressor for the total group was "Time Management," with "Judging People" ranking second. "Discipline and Classroom Management" ranked sixth for the total group but first for the group of classroom teachers. Friesen and Richards (1984) conducted a study in Canada of 234 teachers and 215 principals to identify the major sources of work-related stress in these two groups and found

sources of stress similar to those discovered by earlier researchers.

Researchers have shown stress to be a problem for educators. Major sources of teacher stress which have been identified are role overload, role conflict, role ambiguity, student discipline, and relationships with administrators. Administrators have been found to be stressed by time management concerns; having to comply with federal, state, and local organizational rules and policies; relationships with subordinates; supervision of students; and relationships with parents.

Teachers and administrators who experience negative stress may be subject to any of a large number of physical or psychological disorders, including "coronary heart disease, asthma, kidney and gastrointestinal disease, hostility, depression, and nervous disorders" (Schwartz, Olson, Bennett, & Ginsberg, 1983, p. 2). Golaszewski, Milstein, Duquette, and London (1984) found significantly greater total cholesterol and systolic blood pressure levels in teachers when compared to national norms by age and education. Educators reporting high levels of stress have also reported feelings of ineffectiveness on the job, anonymity, powerlessness, and confinement (Schwartz et al., 1983). Administrators under stress have been found to block out new information and to procrastinate (Lemley, 1987), thus reducing their effectiveness.

Administrators need an understanding of the sources of stress in themselves and in teachers (Farkas, 1983) and an

understanding of the personal and organizational factors which can mediate the effects of stress in order to assure educational efficacy. Principals may have a greater sense of power over stressful situations than teachers have and may, therefore, experience less stress. While performance-based accreditation and similar systems of state accreditation standards have been used in states other than Alabama, no study relating any of these systems to educator stress or comparing the amount of stress experienced by teachers and principals has been conducted. Hoover-Dempsey and Kendall (1982) conducted an extensive review of the literature on teacher stress and found few studies which have addressed the problem so as to determine specific findings concerning the sources, prevalence, and consequences of stress. Gmelch and Swent (1982), Floerke (1988), and Brimm (1983) have identified compliance with rules, regulations, and policies as stressful to administrators, but these researchers did not attempt to determine what proportions of educator stress could be accounted for by this stressor.

Purpose of the Study

The purpose of the study was to determine if differing amounts of general job stress and stress related to the Alabama Performance-Based Accreditation Standards were experienced by teachers and principals. These terms were defined for use in the study.

1. Performance-based accreditation - "A system of accountability and assessment of educational

performance" (Evans, 1981, p. 18) in relation to stated standards for the purpose of accreditation of a school system.

2. Stress - A condition occurring in an individual when there is "a discrepancy between a problem or challenge and the individual's capacity to deal with or to accommodate to it" (Mechanic, 1970, p. 111). McGrath (1970) added a further qualification "that stress or threat only occurs when the consequences of failure to meet the demand are important; or rather, when they are perceived by the organism to be important" (p.18).

Data Source

The superintendents of 9 of the 10 Alabama school systems which participated in the Impact Study of Performance-Based Accreditation during the 1989-1990 school year agreed to participate in the survey of educator stress and stress related to the Alabama Performance-Based Accreditation Standards. The subjects were all 128 elementary and secondary principals and a stratified random sample of 445 teachers from the nine school systems. Responses were received from 242 teachers and 65 principals, resulting in an overall response rate of 53.6%. The typical subject was a female teacher, 42 years old, with 15.7 years experience as an educator. The responses of 219 teachers and 58 principals were judged to be usable. Because this response rate was considered to be low, additional surveys were sent to 23 teachers and 7 principals from the original sample who

had not already responded, along with a letter requesting their participation in the validation of the results. All seven principals and 13 of the teachers returned usable responses. Responses from this nonrespondent group were compared to those of the earlier respondents by means of t tests and were not found to differ significantly. Thus the validity of the data obtained from the respondent group was supported.

Methods

Instruments

All subjects completed the Alabama Performance-Based Accreditation Standards Stress Measure and the Measure of Educator Stress.

The Alabama Performance-Based Accreditation Standards Stress Measure

The Alabama Performance-Based Accreditation Standards Stress Measure was developed for this study. The factors of the Alabama Performance-Based Accreditation Standards Stress Measure represented the categories of standards defined by the Alabama State Department of Education. The 43 items were taken directly from the proposed standards but were reworded in order to combine redundant items and to conform to the Likert scale response format. Subjects were asked to indicate whether they perceived a standard to be (0) not stressful, (2) considerably stressful, (3) decidedly stressful, or (4) extremely stressful. The six subscales were (a) Student Performance, (b) Personnel, (c) School Environment, (d) Opportunities-to-Learn, (e) Student Progress,

and (f) Leadership and Planning. Responses to items in each subscale were summed and divided by the number of items in the subscale to obtain the stress score for the accreditation standards subscales. The RELIABILITY procedure of the SPSS-X statistical package was used to determine the coefficient alpha internal consistency reliability for the Alabama Performance-Based Accreditation Standards Stress Measure. The subscale reliabilities obtained ranged from .72 to .93 (N = 277) and are presented in Table 1.

Insert Table 1 about here

Measure of Educator Stress

The Measure of Educator Stress was used to measure general job stress in the subjects. The Measure of Educator Stress consists of 39 items representing conditions and events which are stressful to educators. Subjects were asked to indicate whether they perceived the condition or event to be (0) not stressful, (1) somewhat stressful, (2) considerably stressful, (3) decidedly stressful, or (4) extremely stressful. Responses to items in each factor were summed and results were divided by the number of items in the factor to obtain the stress score for that factor.

In an earlier study, the Measure of Educator Stress was developed and piloted. Factor analysis of the data gathered in the pilot administration yielded five factors: Job Overload, Subordinate-Superordinate Relationships, Relationships with Students, Relationships with Peers, and Salary and Compensation.

The RELIABILITY procedure of the SPSS-X statistical package was used to determine Cronbach's coefficient alpha internal consistency reliability for the sample from the present survey administration of the Measure of Educator Stress. Subscale reliabilities ranged from .91 to .96 (N = 277). Reliabilities obtained from the pilot and present survey administrations are presented in Table 2.

Insert Table 2 about here

Analyses and Results

In order to determine if differing amounts of general job stress and stress related to the Alabama Performance-Based Accreditation Standards were experienced by teachers and principals, a discriminant analysis was employed. Discriminant analysis is a statistical approach for studying group differences on a number of variables simultaneously (Pedhazur, 1982). Independent variables were scores on the stress subscales: Job Overload, Subordinate-Superordinate Relationships, Relationships with Students, Relationships with Peers, Salary and Compensation, Student Performance, Personnel, School Environment, Opportunities-to-Learn, Student Progress, and Leadership and Planning. The dependent or grouping variable was professional position--teacher or principal. For this analysis, stress measures from 141 teachers and 39 principals were used.

The standardized canonical discriminant function coefficients given in Table 3 were applied to the teachers' and

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Insert Table 3 about here

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principals' standard scores on each of the stress subscales, and resulting products were summed to yield discriminant scores. The canonical correlation between these discriminant scores and group membership was .432. To determine the significance of this association between the independent and dependent variables, Wilks' lambda was calculated. The test of the resulting lambda (.81) indicated that the association (R_c^2 = .19) was significant, χ^2 = 35.68, df = 11, p = .0002. Not only was the association significant, but also it was meaningful given that R_c^2 was $\geq$ .10 (Pedhazur, 1982). It would exceed the moderate effect size (.10) and approach the large effect size (.25) as recommended by Cohen and Cohen (1983).

The standardized coefficients given in Table 3 may be used as indices of the relative importance of the stress measures in discriminating between the groups. However, due to the interrelatedness among the stress subscales, various authors (cf. Pedhazur, 1982) have recommended that structure coefficients (also given in Table 3) be used instead with values $\geq$ .30 being treated as meaningful. As seen when reviewing the structure matrix, Job Overload, Relationships with Students, Salary and Compensation, Subordinate-Superordinate Relationships, Student Progress, and Personnel ordered by size of the correlation between the stress measures and the discriminant scores define the discriminant function.

To clarify further the differentiation in the stress experienced by teachers and principals, a one-way analysis of variance was performed. Results are shown in Table 4. As can be

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Insert Table 4 about here
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seen in this table, teachers and principals differ significantly on Job Overload, Relationships with Students, Salary and Compensation, Subordinate-Superordinate Relationships, Student Progress, and Personnel. Means given in Table 5 reveal that

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Insert Table 5 about here
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stress levels on these measures were higher for the teachers than for the principals. Wilks' lambda values reported in Table 4 show that the effect sizes were weak to moderate (Cohen & Cohen, 1983).

Conclusions and Recommendations

Results of this study support the following conclusions: Teachers experience more stress than principals with the source of stress being primarily job overload, relationships with students, salary and compensation, and subordinate-superordinate relationships. That teachers find their jobs stressful has been documented in a number of earlier studies. However, in none was there a direct comparison of the stress experienced by teachers versus principals with stress measured using the same scale. Given that stress has been defined as "a discrepancy between a problem or challenge and the individual's capacity to deal with

or to accommodate to it" (Mechanic, 1970, p. 111), it may be that teachers more than principals feel powerless.

Teachers also experience more stress than principals regarding some of the Performance-Based Accreditation Standards (e.g., student progress and personnel). It may be that this movement has increased the teachers' workloads, affected their morale, and "pushed them toward their frustration level" as Blackbourn and Wilkes (1987, p. 1) suggested.

Schools and school systems must change in order to meet the needs of a changing society, and a performance-based accreditation system may provide the solution needed for school improvement. However, because change has been shown to be less stressful when one has had an opportunity for participation in it, teachers should be involved extensively in plans for the full implementation of any major reform in the educational system. Educators who are not directly involved in the plans for implementation should be fully informed of the agenda and its ramifications for their personal work situations. Staff development courses aimed at developing a more internal locus of control should be developed, with resulting research to determine whether changing one's control orientation reduces stress.

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Table 1

Reliability Coefficients for the Measure of Educator Stress

Subscale	Cronbach's alpha Survey sample (N = 277)
Student Performance	.87
Personnel	.76
School Environment	.72
Opportunities-to-Learn	.93
Student Progress	.93
Leadership and Planning	.90

Table 2

Reliability Coefficients for the Measure of Educator Stress

Subscale	Cronbach's alpha	
	Survey sample (N = 277)	Pilot sample (N = 236)
Job Overload	.94	.95
Subordinate-Superordinate Relationships	.92	.93
Relationships with Students	.92	.84
Relationships with Peers	.91	.87
Salary and Compensation	.96	.86

Table 3

Discriminant Analysis: Standardized Coefficients and Structure Coefficients

Subscale	Standardized coefficients	Structure coefficients
Job Overload	0.39415	0.68150
Subordinate-Superordinate Relationships	0.30519	0.61932
Relationships with Students	0.47505	0.67451
Relationship with Peers	-0.49563	0.02906
Salary and Compensation	0.27080	0.61932
Student Performance	-.04263	0.24054
Personnel	0.20634	0.33173
School Environment	-0.19906	0.22051
Opportunities-to-Learn	-0.06954	0.29927
Student Progress	0.51167	0.42809
Leadership and Planning	-0.40510	0.23052

Table 4

Wilks' Lamb and Univariate Analysis of Variance of Stress Measures for Teachers and Principals with 1 and 178 Degrees of Freedom

Subscale	Wilks' Lambda	F	Significance
Job Overload	.90357	19.00	.0000
Subordinate-Superordinate Relationships	.95481	8.42	.0042
Relationships with Students	.90535	18.61	.0000
Relationships with Peers	.99981	.03	.8528
Salary and Compensation	.91900	15.69	.0001
Student Performance	.98688	2.37	.1257
Personnel	.97534	4.50	.0353
School Environment	.98895	1.99	.1602
Opportunities-to-Learn	.97983	3.66	.0572
Student Progress	.95959	7.50	.0068
Leadership and Planning	.98794	2.17	.1422

Table 5

Subscale Means and Standard Deviations for Teachers and Principals

Subscale	Mean		Standard deviation	
	Teacher	Principal	Teacher	Principal
Job Overload	2.22	1.41	1.06	.00
Subordinate-Superordinate Relationships	1.60	1.08	1.02	1.93
Relationships with Students	2.13	1.33	1.03	.98
Relationships with Peers	1.24	1.21	1.10	.95
Salary and Compensation	2.11	1.15	1.31	1.39
Student Performance	1.21	.97	.84	.90
Personnel	.94	.59	.95	.79
School Environment	1.24	.92	1.30	1.01
Opportunities-to-Learn	1.14	.77	1.12	.87
Student Progress	1.18	.64	1.17	.74
Leadership and Planning	1.08	.82	.99	.88