

Job Stress in Speech-Language Pathologists Working in Rural, Suburban, and Urban Schools: Social Support and Frequency of Interactions

Gordon W. Blood

The Pennsylvania State University, University Park

Emily A. Thomas

Bi-County Educational Collaborative, Wrentham, MA

Jenna Swavely Ridenour

Lancaster-Lebanon Public Schools, Lancaster, PA

Constance Dean Qualls

Carol Scheffner Hammer

The Pennsylvania State University, University Park



One of the major problems confronting professionals working in the school setting is job stress. Overwhelming paperwork, large class sizes, lack of access to technology, unpredictable and poor student behavior, and lack of administrative

support are stressors reported by education personnel. The multiple and conflicting organizational goals, ambiguity concerning specific job requirements, and lack of perceived social support contribute to exhaustion, depersonalization, and feelings of diminished accomplishment associated with

ABSTRACT: Job stress levels of speech-language pathologists (SLPs) working in rural, suburban, and urban schools were determined using a standardized inventory. The majority of SLPs (82%) rated their overall job stress levels with an overall judgement score of "barely noticeable." However, there were a variety of items that surfaced as chronic stressors for SLPs. The top stress items included overwhelming paperwork (82%), overwork (71%), lack of time (64%), lack of preparation time (62%), and large caseload size (55%). A Functional Social Support Scale and a Frequency of Interactions with Peers and Supervisors Scale were also administered. Regression analysis was performed on the

SLPs' overall judgment score and revealed that high levels of stress were predicted by low scores of functional social support and little interaction with peers and supervisors. The data revealed that rural SLPs reported less functional social support and interaction than their suburban and urban counterparts. Increasing strategies/opportunities for social support and interaction may assist administrators in decreasing stress and burnout, while also retaining more SLPs in specific geographic areas.

KEY WORDS: job stress, social support, interactions

stress and burnout in education professionals (Anderson & Iwanicki, 1984; Beck & Gargiulo, 1983; Bryne, 1994; Fimian, 1988; Friedman, 1995a, b; Guglielmi & Tatrow, 1998; Lieberman & Miller, 1984; Maslach & Leiter, 1999; Seidman & Zager, 1991; Smylie, 1989; Travers & Cooper, 1996).

Job stress in educational personnel has detrimental physiological and psychological effects on educators and the students they serve. These job stressors have been reported by general education teachers, special education teachers, school counselors, teachers of the deaf, school speech-language pathologists (SLPs), and administrators (Beer & Beer, 1992; Borg, 1990; Borg & Riding, 1993; Darcy, Kusznirow, & Lester, 1995; Fimian, Lieberman, & Fastenau, 1991; Male & May, 1997; Moracco, Butcke, & McEwen, 1984; Neeley, Diebold, & Dickinson, 1994; Wisniewski & Gargiulo, 1997; Yezzi & Lester, 2000). The negative effects of stress on SLPs working in schools have not received systematic attention in the literature.

JOB STRESS IN SLPs

The rise in the use of technology assistance for children with communication disorders, new legal mandates requiring additional paperwork and meetings, new competencies in literacy, and larger caseloads are becoming the norm for SLPs working in the school setting. For example, the current data reported in the recent omnibus survey on caseload reports by the American Speech-Language-Hearing Association (ASHA, 2000a) suggest that SLPs are still working with average caseloads of more than 53 children, even though the recommended guidelines are 40 children. New knowledge and skills statements were published this year for SLPs in augmentative and alternative communication and in swallowing and feeding disorders, guidelines for roles and responsibilities of school-based SLPs were published in 2000 (ASHA, 2000b), and guidelines for SLPs with respect to reading and writing in children and adolescents were published in 2001 (ASHA, 2001). Similarly, new service delivery models that are more collaborative in nature and that require SLPs to conduct treatment sessions in the classroom setting may increase uncertainty in role identification and expectations (ASHA, 2000b). These recent changes and additions to the roles and responsibilities of SLPs in the school setting may make them especially vulnerable to job burnout and stress.

Only a few older studies have reported on job satisfaction (the reciprocal of job stress) in SLPs (Miller & Potter, 1982; Pezzeri & Oratio, 1991; Wisniewski & Shewan, 1987). These studies, conducted more than a decade ago, conclude that most SLPs are generally satisfied with their jobs, although paperwork, caseload size, and greater accountability are major stressors. In 1991, Fimian, Lieberman, and Fastenau published a study on job stress in SLPs. They developed a 48-item Speech Language Pathology Stress Inventory (SLPSI) that measured stress in six categories, including bureaucratic restrictions, emotional-fatigue manifestations, time and workload management,

instructional limitations, biobehavioral manifestations, and lack of professional supports. They concluded that SLPs and general education teachers report similar types of stressors. However, this study did not examine relationships among job stress and other critical variables, including geographic location, perceived pay equity, perceived social support, job satisfaction, or absenteeism.

RURAL AND URBAN SCHOOLS

More than half of the nation's public schools are in rural areas and more than 40% of public school students are from rural areas (National Education Association [NEA], 1998). According to the NEA report, rural schools are less likely than urban schools to have magnet schools or to offer bilingual or English as a Second Language programs for students. They also report lower rates of Internet use. Rural school personnel are slightly less experienced than their urban counterparts, work slightly longer hours, earn lower salaries with fewer fringe benefits, and are less likely to have health insurance (National Center for Education Statistics, 2000a, b, 2001). Providing for the needs of children with speech and language disabilities is even more difficult in rural areas because of geographic barriers, community/family circumstances, sociocultural differences, and personnel recruitment issues (Coleman, Thompson-Smith, Pruitt, & Richards, 1999; Helge, 1992).

Numerous studies report that rural and small school personnel may be more prone to the negative effects of job stress than their urban and inner-city counterparts (Goldberg, 1993; Helge, 1992; Johnson-Webb, Baer, & Gesler, 1997). Retention and recruitment of teachers and public school personnel is more difficult in rural areas where job satisfaction is reported to be lower than in suburban and urban areas (Bakker & Schaufeli, 2000; Farmer, 1994; Foster & Harvey, 1996; Kniveton, 1991). Special education teachers, school counselors, teachers of deaf students, school occupational therapists, teachers of children with severe learning disabilities, and SLPs working in rural areas have reported higher incidences of stress than their urban counterparts (Fimian et al., 1991; Helge, 1992; Male & May, 1997; McNeil & Jordan, 1994; Minner & Lepich, 1993; Moracco et al., 1984; Neeley et al., 1994; Wisniewski & Gargiulo, 1997).

Comparisons of SLPs working in rural and urban settings have reported differences in recruitment, retention, and resources (Condon, Simmons, & Simmons, 1986; Fimian et al., 1991; Foster & Harvey, 1996; Hall, Larrigan, & Madison, 1991; Neely et al., 1994; Pezzeri & Oratio, 1991). These studies support Helge's comments (1992) that education personnel in rural areas are more likely to experience geographic and professional isolation than personnel in urban areas, possibly resulting in greater stress and burnout. Given the many new emerging areas of specialization for SLPs in schools during the past decade (e.g., augmentative and alternative communication, child language and literacy, swallowing disorders in school-age children), the expanding knowledge bases and skill level

demands, large caseload sizes, ambiguous and multiple roles arising from new service delivery models, and excessive paperwork, SLPs working in public schools may be vulnerable to job-related stress.

PEER AND ADMINISTRATIVE SOCIAL SUPPORT

Psychosocial support plays an important role in dealing with daily stressors in work and nonwork settings (Cohen & Wills, 1985). Social support has been categorized into two main types: structural (i.e., the existence, number, and type of interrelationships between social contacts) and perceived (i.e., the perceptions of the availability and adequacy of resources provided by contacts). Supportive social networks (e.g., peers, supervisors, friends, and family) moderate or “buffer” the individual against the negative physical and psychological effects of stress. Changes in job roles, alterations in daily events, perceived stress, and lack of autonomy produce changes in individuals’ need for social support (Bruhn & Phillips, 1988).

Kyriacou (1981) explained that social support for teachers can assist in relieving tension, fostering a climate where problems and concerns are discussed, and enabling teachers to receive sound advice from colleagues. Data on peer/colleague social support showed that it plays a key role in decreasing job stress and burnout in educational personnel (Bryne, 1999; Dworkin, 1987; Farber, 1991; Natale, 1993; Russell, Altmaier, & Van Velzen, 1987; Sarros & Sarros, 1992; Vandenberghe & Huberman, 1999). For example, Zabel and Zabel (1982) reported that special education teachers who perceived positive administrative and peer support were less likely to report burnout than teachers who did not perceive similar levels of social support. Schwarzer and Greenglass (1999) proposed a model of teacher burnout that was based on a social-cognitive perspective that incorporated facets of social support. They hypothesized that burnout developed after an extended period of job stress arising from teachers’ pursuits of professional goals and actions that were unfulfilled. Job stress was characterized by these unmet professional goals, lack of encouragement by others, and self-doubts. As teachers fail to realize their goals or to make appropriate attempts at actions, their self-doubt and unsuccessful coping leads to helplessness and a sense of resignation. They lose confidence in their ability to set specific goals and to activate effective social support networks. The lack of social support is at one of the cornerstones of their model in which they emphasize the role of self-regulatory and self-fulfilling behaviors and attitudes. Providing and/or activating appropriate social support networks and interactions, lowering external expectations, reducing job ambiguity, and prioritizing specific strategic goals are recommended as approaches for reducing job stress and burnout.

Recently, Bakker and Schaufeli (2000) provided evidence of the critical nature of social support in combating job stress and burnout among high school teachers. They found that the frequency of interactions with other teachers

correlated negatively with both emotional exhaustion and depersonalization facets of burnout. The more social contact and interactions that teachers reported, the less likely they were to demonstrate job-related stress and burnout. Even when the interactions with their colleagues were only about problems encountered in their work, the interactions served as a type of social support function that buffered against the adverse effects of occupational burnout. It appears that social support plays a critical role in understanding job stress and burnout in education personnel.

Various authors have suggested that increasing social support from peers and/or administrators may help to reduce stress and burnout in education personnel (Bakker & Schaufeli, 2000; Bryne, 1999; Littrel, Billingsley, & Cross, 1995; Woods, 1999; Zabel & Zabel, 1982). Similarly, these studies report the difficulties in recruiting and retaining educators and SLPs in rural communities and possible links to lack of support and isolation. No empirical studies have attempted to identify the relationships among job stress, geographic location, and social support in SLPs working in schools. This study is part of an ongoing series of studies examining job stress, burnout, and related factors in SLPs.

For the present study, we attempted to determine the extent to which SLPs working in specific geographic areas (i.e., rural, suburban, and urban) report their work as stressful, and if these stress levels were related to perceived social support and frequency of interactions with peers and supervisors. Specifically, we assessed (a) the job stress levels of SLPs; (b) the differences among job stress levels of SLPs working in rural, suburban, and urban schools; (c) the perceived functional social support levels and frequency of interactions of SLPs; (d) the differences among SLPs working in rural, suburban, and urban schools in terms of functional social support and frequency of peer/supervisory interactions; and (e) the effects of functional social support, frequency of interaction, and geographic location on reported job stress scores.

METHOD

Participants

One thousand certified, practicing SLPs employed in the public schools in the United States were randomly selected from the ASHA national list of members. The sample included SLPs from each state in the country, with the number of participants from each state being based on the population of the state. Given this selection technique, the state of California had more SLPs receive surveys than the state of Rhode Island. Almost 16% (102) of the respondents reported working in rural areas, 46% (303) reported working in suburban areas, and the remaining 38% (250) reported working in urban areas. Participants were assigned to rural, suburban, or urban groups according to self-reports of their geographic location. Definitions for rural, suburban, and urban were those provided by Ricketts, Johnson-Webb, and Randolph (1999). They summarized and modified the United States Bureau of the Census and the United States

Office of Management and Budget's classifications of metropolitan and nonmetropolitan areas on the basis of population. For this study, rural included places or locations with populations of less than 5,000 residents. Suburban was defined as places or locations with populations of greater than 5,000 but less than 100,000 residents. Urban classification included places or locations with populations of 100,000 or more residents.

A cover letter, the survey containing demographic items (e.g., age, gender, ethnicity, education, geographic location), and self-report questionnaires/scales were mailed to the 1,000 potential participants' school addresses. Follow-up mailings were sent at 4 and 8 weeks following the initial mailing. This resulted in 687 responses from SLPs (return rate of 68.7%). Thirty-two of the responses (4.7%) were deemed unusable because of returned unopened surveys, change of address, participants no longer employed in schools, or failure to complete demographic and/or questionnaire data. This produced a response from 655 SLPs, representing a 65.5% response rate for the sample.

The majority of the participants were female (94.6%), European Americans (96.3%), with a mean age of 47.8 years. SLPs reported average caseload sizes between 50–60 clients. The greatest number of SLPs (39%) reported working between 40–45 hours per week; an additional 22% reported working between 45–50 hours. The participants reported working as SLPs a mean of 19.1 years, and working in their current positions a mean of 9.7 years.

MEASURES

Stress Inventory

The SLPSI, a scale developed by Fimian et al. (1991) measuring occupational stress in SLPs, was selected because it has been used in previous studies and provides reliability and validity data. It consists of 48 items. Participants rate themselves on a 5-point Likert-type scale indicating how strongly they feel about a statement ranging from 1 (no strength; not noticeable) to 5 (major strength; extremely noticeable). Total stress scores range from 48 to 240. Factor analysis of the SLPSI revealed a six-factor solution including four stress source factors (Bureaucratic Restrictions, Time and Workload Management, Lack of Professional Supports, and Instructional Limitations) and two stress manifestation factors (Emotional–Fatigue Manifestations and Biobehavioral Manifestations). The inventory yields a total stress score and six subscale scores. Good content and construct validity and inventory reliability have been reported. Internal consistency for the SLPSI is $\alpha = 0.77$.

Social Support Scales

The Duke Social Support Index (DSSI; Blazer, Hybels, & Hughes, 1990; Landerman, George, Campbell, & Blazer, 1989) measures the amount of social interaction in participants' social networks and their self-perceptions of inclusion

and value in the networks. The DSSI consists of 35 items designed to measure various dimensions of social support. The items can be combined to develop four unique social support scales. These subscales have been reported to be reliable and valid measures (Blazer et al., 1990; Landerman et al., 1989). The scale and its subscales have been used extensively in community surveys with individuals of all ages. For this study, the Social Interaction Scale (SIS) and the Subjective Social Support Scale (SSSS) were used.

- The SIS is a 4-item scale that measures the frequency of participants' interactions with members of their social network. Examples of these items include: "Are you satisfied with how often you see your friends and relatives; that is, do you see them as often as you want to?" and "How satisfied are you with the kinds of relationships you have with your family and friends?" The response categories include very dissatisfied, somewhat dissatisfied, and satisfied. Scores range from 0 to 12. Higher scores indicate greater perceived satisfaction. The mean for the normative sample ($N = 3,767$) was 6.3 ($SD = 2.6$). Persons with scores of 3 or less on this subscale are considered to have impaired social interaction and constitute 16% of the population. This subscale has acceptable reported reliability ($\alpha = .74$).
- The SSSS includes 10 items that measure overall satisfaction with the quantity and quality of social support. This scale is summed to form a continuous scale score ranging from 0 to 30. Sample items include: "Do you feel useful to your family and friends?" and "Can you talk about your deepest problems with at least some of your family or friends?" The response categories include hardly ever, some of the time, and most of the time. Higher scores indicate greater perceived satisfaction. The mean for the normative sample ($N = 2,852$) was 26.1 ($SD = 2.7$). The scale was dichotomized into impaired and not impaired, with scores of 23 or less (impaired). This subscale has good reported reliability with an alpha index of .79. (Blazer, Hughes, & George, 1992; George, Blazer, Hughes, & Fowler, 1989; Steffens, Hays, George, Krishnan, & Blazer, 1996).

For this study, we used the four items of the SIS subscale and the ten items of the SSSS subscale that were summed and formed a reliable index of functional social support with a Cronbach's alpha of .82 (Blazer et al., 1992; George et al., 1989; Steffens et al., 1996). We labeled these two combined subscales the Functional Social Support Scale (FSSS). Scores ranged from 0 to 42. Higher scores indicate greater perceived satisfaction with functional social support from family and friends.

Interactions With Peers and Supervisors

Two items were developed to measure the frequency of contact with peers and supervisors by SLPs ("How often do you talk with other SLPs?" and "How often do you talk with your supervisor?") on a 5-item rating scale ranging from *never* to *almost everyday*. The two items were

summed and formed a reliable index of frequency of interactions among SLPs with a Cronbach's alpha of .83. This is considerably higher than the criterion set of .70 (Nunnally, 1978) for internal consistency measurements of test scales.

Data Analyses and Reliability

Frequency distributions, mean scores, and standard deviations were computed for the SLPSI, the FSSS, and the Frequency of Interactions scale for all respondents. The issue of whether one should or should not use parametric methods with ordinal data has been debated for years without any useful resolution. On the one hand, you have studies showing that nonparametric statistics are not what they claim to be as there often is an underlying parametric model; on the other hand, you have studies showing that the use of parametric statistics can lead to erroneous inferences in various situations. Statisticians tend to be more responsive to common practice and the admittedly early literature that suggests that an analysis of variance (ANOVA) can lead to reasonable inferences when used with data that are not normally distributed. Few individuals use nonparametric methods with ordinal data (Anderson, 1961; Bevan, Denton, & Myers, 1974; Boneau, 1960a, b). Therefore, we computed separate one-way ANOVAs among the group means for the SLPSI, FSSS, and interaction items to determine significant differences among the different places of employment for SLPs (i.e., rural, suburban, and urban). To determine whether functional social support, frequency of interaction, and geographic location had a significant effect on the total SLPSI scores, a step-wise regression analysis was computed. For all tests of significance, alpha was set to the .05 level of confidence.

RESULTS

SLPSI Scores

The majority of SLPs (82%) reported that stressors were "barely noticeable" in relation to their jobs. Total mean stress scores and standard deviations were computed for the SLPSI. Total stress scores could range from a low of 48 to a high of 240. The mean SLPSI score for SLPs was 131.3 ($SD = 34.2$). This meant that stressors were barely noticeable. In order to determine if differences existed among the three geographic locations, a one-way ANOVA was calculated using the three group means (rural = 134.3; suburban = 131.2; urban = 132.3). No significant group differences were found. A series of one-way ANOVAs was also computed for the six subscales, including Bureaucratic Restrictions, Time and Workload Management, Lack of Professional Supports, Instructional Limitations, Emotional-Fatigue Manifestations, and Biobehavioral Manifestations. Significant differences were found for the Lack of Professional Supports subscale means among the three groups: rural (37.8), suburban (33.3), and urban (33.1) ($F[2, 652] = 3.66, p < .03$). The post hoc analyses, Newman-Keuls Test,

revealed significant differences between the rural and suburban means (rural = 37.8; suburban = 33.3) and the rural and urban means (rural = 37.8; urban 33.1). There were no differences between the suburban and urban mean scores. The range of possible scores on this subscale was 11–55. The group mean scores suggested that the lack of professional supports stressors were "moderately noticeable" for all three groups, with rural SLPs reporting the greatest amount of stress. Results of the ANOVAs for the other five subscales revealed no significant differences among the group means.

The percentage of participants who reported moderate levels of stress (3 or greater) for the SLPSI were also tabulated and are presented in Table 1. It can be seen that the top stressors for SLPs included overwhelming paperwork (82%), overwork (71%), lack of time to complete workload (64%), lack of preparation time (62%), and large caseload size (55%). Other items included not having enough time for relaxation or personal priorities, administrative limitations, inadequate salaries, and the public's lack of recognition of the services provided. Inspection of Figure 1 depicts the mean ratings of these items, with excessive paperwork receiving the highest mean rating ($M = 4.1$) on a 5-point scale of the top 11 stressors.

FSSS Scores

The 14-item FSSS mean rating score for all participants was 31.8 ($SD = 10.8$). A score of 31.8 is equivalent to the 76th percentile. The range of scores was from 3 (less satisfied) to 42 (more satisfied). Seventy-one percent of the participants earned FSSS scores greater than 21 (the 50th percentile), indicating overall satisfaction with their social support. Twenty-nine percent earned scores of 21 or less (less than the 50th percentile), suggesting less satisfaction with their social support. There were significant differences among the group means for the rural ($M = 28.1; SD = 7.8$), suburban ($M = 32.2; SD = 10.6$), and urban ($M = 32.8; SD = 11.8$) participants: $F(2, 652) = 7.78; p < .0001$. The post hoc analyses revealed significant differences between the rural and suburban means and the rural and urban means (Newman-Keuls Test).

Frequency of Interaction Scores

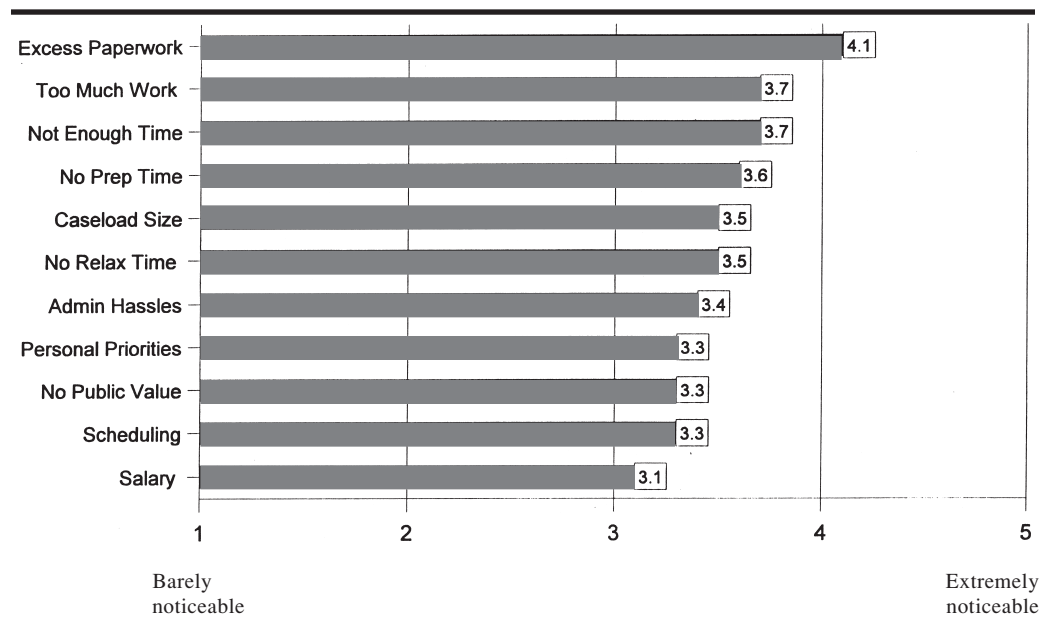
The mean frequency of interaction score was 3.73 ($SD = 1.13$). The range of possible scores was from 1 (never interacting) to 5 (almost everyday). This meant that SLPs reported that they were in contact with their peers or supervisors almost 1 or 2 times per week. There were significant differences among the group means for the rural ($M = 3.0$), suburban ($M = 3.8$), and urban ($M = 4.0$) participants ($F[2, 652] = 22.4, p < .001$). The post hoc analyses revealed significant differences between the rural and suburban means and the rural and urban means (Newman-Keuls Test). A rating of 3.0 indicated that rural SLPs talked with peers or supervisors approximately "1 or 2 times per month"; higher ratings near the 4 range suggested that suburban and urban SLPs talked with peers

Table 1. Number and percentages of 655 speech-language pathologists (SLPs) who reported Speech Language Pathology Stress Inventory (SLPSI) items rated moderately noticeable (3 or greater).^a

<i>SLPSI item</i>	<i>Number of SLPs</i>	<i>% of SLP</i>
1. I feel frustration because there is too much administrative paperwork in my job.	537	82
2. I have too much work to do.	465	71
3. There isn't enough time to get things done.	419	64
4. There is little time to prepare for my responsibilities.	406	62
5. My caseload is too big.	360	55
6. I have little time to relax and enjoy the time of day.	321	49
7. I feel boxed in by administrative policies that limit my effectiveness.	301	46
8. My personal priorities are being shortchanged due to time demands.	295	45
9. The public does not recognize the value of the service I provide.	262	40
10. I feel frustration because inflexible scheduling limits the effectiveness of my program.	255	39
11. I receive an inadequate salary for the work which I do.	216	33

^a Mean rating scores where 1 = not noticeable, 2 = barely noticeable, 3 = moderately noticeable, 4 = very noticeable, 5 = extremely noticeable.

Figure 1. Major perceived stressors.



and supervisors approximately “1 or 2 times per week.” This may be a direct result of geographic isolation reported by educational personnel SLPs working in rural areas.

Regression Analysis

In order to determine whether functional social support, frequency of interaction, and geographic location had a significant effect on the total SLPSI scores, a step-wise regression analysis was computed. The independent variables included functional support scores (range 3–42),

frequency of interactions (range 1–5), and geographic location (i.e., rural, suburban, urban). The first variable selected in the regression analysis was functional social support, followed by frequency of interactions and geographic location. The regression was a good fit ($R^2_{adj} = 62\%$), and the overall relationship was significant ($F[3, 651] = 349, p < .0001$). With other variables held constant, stress scores were negatively related to functional social support and frequency of interactions. The effect of both functional social support and higher frequency of interactions predictors were significant: $t(651) = 32.1, p < .0001$

and $t(651) = 6.35, p < .0001$, respectively. The best predictor of job stress was the FSSS. This meant there was a strong negative relationship between stress scores and functional support scores. Stress scores decreased as functional support questionnaire scores and frequency of interaction scores increased. Rural SLPs had slightly higher stress scores than their suburban and urban counterparts; however, the geographic location factor was not significant in the regression equation as a predictor. The Pearson product moment correlations for SLPSI scores and FSSS ($r = -.78, p < .001$) and frequency of interactions ($r = -.44, p < .001$) were also significant.

DISCUSSION

Although substantial evidence exists to suggest that schools are a stressful environment that can lead to both physical and psychosocial problems, SLPs in this study reported low levels of daily and/or chronic stressors. The mean SLPSI scores revealed overall stress levels in the barely noticeable range for 82% of the participants. Remarkably, only 18% of the participants' scores were in the moderately noticeable and very noticeable range.

It should be noted that a number of the 48 stressors were ranked very high by many SLPs. The major stressors reported were overwhelming paperwork, overwork, lack of time, lack of preparation time, and large caseload sizes. These are similar to those reported by general and special education teachers (Beer & Beer, 1992; Bryne, 1994; Lieberman & Miller, 1984; Male & May, 1997; Maslach & Leiter, 1999; Moracco et al., 1984; Neeley et al., 1994; Wisniewski & Garguilo, 1997; Yezzi & Lester, 2000). These stressors may contribute to reduce productivity, increase feelings of helplessness, and influence the quality of services provided to children.

This study examined stress and its relationship to social support and geographic location. Our study proposed that one of the more effective strategies for dealing with stress might be eliciting or obtaining social support from family, friends, coworkers, and superiors. Our hypothesis was supported. The results from the regression analysis provide evidence that social support and peer/supervisor interaction were significant predictors of job stress. Increases in the functional support scores and frequency of interaction scores were related to decreases in overall job-related stress. This is similar to other studies that suggest that social support has a direct influence on reducing the negative effects of stress (Cheuk, Wong, & Rosen, 1994; Cohen & Wills, 1985; Vaux, 1988; Wasserman & Danforth, 1988). It may be that communicating and interacting on a regular basis with peers and supervisors creates a less stressful work environment for SLPs.

Previous research has reported that social support may act as a buffer against stress in the workplace (Cohen & Wills, 1985; Cutrona, 1990). Russell et al. (1987) examined burnout and social support among classroom teachers working in Iowa. They concluded that teachers who received positive feedback regarding their skills and

abilities from supervisors were less vulnerable to job stress and burnout than those who received no feedback. The results of this study support their work and expand the findings to SLPs working in public schools. The support from both peers and supervisors may be valuable in assisting SLPs to maintain a less stressful environment in the school setting.

This study also examined the differences among SLPs working in rural, suburban, and urban schools. No significant differences were found among the three groups in terms of overall stress levels. This is contrary to many studies examining other school personnel, which report higher stress levels in rural workers (Goldberg, 1993; Helge, 1992; Johnson-Webb et al., 1997; Leon & Cole, 1994). It may be that the survey instrument, the SLPSI, tapped specific stressors and not general stressors, as did many of the other studies involving school personnel. It is also possible that SLPs working in rural areas have discovered effective ways to deal with daily hassles.

Significant differences were found among rural, suburban, and urban participants on the Lack of Professional Supports subscale of the SLPSI. SLPs working in rural environments tended to report less professional support. Items in this category include (a) doesn't feel like a member of the school, (b) lacks recognition, (c) feels professionals don't understand work, (d) feels public doesn't value work, (e) lacks adequate space, (f) receives an inadequate salary, (g) lacks opportunities to consult with other professionals, (h) lacks support, (i) lacks opportunities for promotions and advancement, and (j) lacks sufficient resources. Unfortunately, this finding is not unexpected. Retention and recruitment in rural areas continue to be problems for all education personnel (Bakker & Schaufeli, 2000; Farmer, 1994; Foster & Harvey, 1996; Helge, 1992; Kniveton, 1991).

The literature reveals that many of the items included in this subscale are the primary reasons that teachers and SLPs cannot be recruited to rural areas. The research suggests that lower incomes, longer working days, larger caseloads, scheduling complexities, and professional isolation contribute to higher levels of stress in rural settings. Our findings support differences in these core areas for SLPs working in rural areas. With school personnel turnover rates between 30% and 50% for professionals working in rural areas (including SLPs), administrators need to examine new strategies for recruitment and retention (Coleman et al., 1999; Helge, 1992; Neely et al., 1994). Programs targeting the enhancement of strong social support networks at work could be systematically addressed. The development of mentoring programs may provide another means for retaining highly qualified personnel. Protocols aimed at improving supervisors' interaction skills could also be developed. These may be effective ways to retain outstanding SLPs in schools, especially rural areas. The use of the Internet may be a new and novel way to stay "connected" with peers and supervisors. Job stress and the relationship between social support need to be examined within the framework of new technologies.

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Contact author: Gordon W. Blood, Department of Communication Sciences and Disorders, 110 Moore Building, The Pennsylvania State University, University Park, PA 16802. E-mail: f2x@psu.edu