

# Professional Stress Among Family Physicians

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Professional stress syndrome was investigated among residents, academic physicians, and community physicians in family practice. A survey including measures of physician stress, depression, locus of control, family and peer support, and medical practice characteristics was completed by 294 physicians. Univariate analysis of variance procedures were used for all statistical tests. Results revealed a significant positive correlation among perceived stress in medical practice, depression, and external locus of control.

Decreased levels of stress were associated with higher scores on indices of family and physician-peer support. Differences in stress patterns between residents, faculty, and community physicians emerged on several critical variables. Residents felt professional duties interfered with family life to a greater extent than did faculty or practitioner colleagues. Community physicians report higher levels of family support, less idealism, and greater sense of personal control. The stress and coping model proposed illustrates how environmental, as well as internal, factors are affected by stress and serve as moderators of the stress response.

Physicians in primary care disciplines spend considerable time in intense involvement with patients and professional colleagues. Frequently, the patient-encounter involves psychological and

socioeconomic problems that complicate medical problem solving. McCue<sup>1</sup> has emphasized that physicians encounter stresses daily that are an intrinsic part of medical practice. Working with highly emotional aspects of patient care, eg, suffering, fear, sexuality, and death, as well as handling "difficult" patients, often strains the physician's tolerance for frustration and ambiguity. For the physician who works continuously under such circumstances, the chronic stress can be physically and emotionally draining, and can lead to signs of the professional stress syndrome.<sup>2</sup>

Awareness of the existence of the professional

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stress syndrome, or burnout, has received increasing attention during the past decade. Maslach<sup>3</sup> notes that most discussions of professional stress emphasize contact with people and the factors that make contact particularly difficult, or emotionally stressful. The majority of the burnout literature deals with human service, or health care professions.<sup>4-7</sup> Increased job stress and work-related frustrations among primary care providers may result in lower productivity and morale. Recent investigations have indicated that protracted stress may play a major role in the poor delivery of health care services, and is associated with the development of negative, cynical attitudes toward one's patients.<sup>8</sup>

A recent survey of 850 family physicians by the American Academy of Family Physicians<sup>9</sup> illustrates the primary care physician's vulnerability to stress. The survey found that while 97 percent of the physicians said they liked their work, 65 percent indicated a significant level of stress in their work environment. Over one half of those participating felt that their work load was the most significant job-related stress. In the recent survey by McCranie and colleagues,<sup>10</sup> several areas of relative dissatisfaction and difficulty leading to increased stress were reported. Practice time pressures, the necessity of treating emotional problems beyond their training, financial costs of the practice, paperwork, and perceived interference by external regulations were ranked highly by family physicians as increasing stress and dissatisfaction.

It is apparent that the problem of professional stress among primary care physicians demands further investigation. Because of prolonged and often intense time involved in direct patient care, the family physician may become at risk for job-related stress and impairment. The purpose of this paper is to compare indices of professional stress among family practice faculty, family practice residents, and practicing family physicians in the community.

## Methods

Two groups of family physicians practicing

within North Carolina were included in the study. Group 1 included all physician faculty and residents associated with the Department of Family Medicine, East Carolina University, and four residency programs affiliated with the Department of Family Medicine, University of North Carolina-Chapel Hill. Group 1 included 116 residents and 32 faculty. Group 2 consisted of a stratified random sample of 330 of the 1,264 members of the North Carolina Academy of Family Physicians (NCAFP). The stratifying variables were physician age and practice location. The combined groups provided a total of 478 family physicians to be included in the study.

To assess professional stress and its correlates in family physicians, a 128-item survey instrument was constructed. The first section contained items requesting information on general demographic data, medical training, and practice characteristics. The remaining sections included measures of professional stress, idealism, depression, locus of control, and social support. The first of these, the Physician Stress Inventory (PSI),<sup>11</sup> was constructed from a review of the literature on professional stress syndrome and observation of family physicians and residents. The PSI is a 26-item, four-point Likert scale; respondents are requested to identify the extent to which they believe a statement applies, or does not apply, to them. There are four derived PSI subscales: (1) internal professional stress, (2) perceived work productivity, (3) interference with family life, and (4) external professional stress. Internal consistency reliability coefficients equal .87 for internal professional stress, .85 for perceived work productivity, .71 for interference with family life, and .92 for external professional stress.

The Zung Self-Rating Depression Scale was used as the measure of depression.<sup>12</sup> This diagnostic tool assesses 20 commonly agreed upon symptoms of depression and has been extensively validated. An abbreviated version of the Marlow-Crowne Social Desirability Scale was used to assess social desirability.<sup>13</sup> Locus of control as a personality construct refers to the extent to which persons believe they influence or control their life events and experiences. The Internal-External Locus of Control Scale developed by Rotter,<sup>14</sup> one of the earliest and best validated measures of locus of control, was used. A three-item idealism scale

was developed and included in the survey. The internal consistency reliability coefficient for the idealism scale was .64. The final section consisted of social support items derived or modified from an existing instrument, the Family Inventory of Resources for Management.<sup>15</sup> This tool assesses perceived support from family and physician peers. A pretest of the survey instrument administered to 47 family physicians and residents at East Carolina University resulted in minor revisions of several items.

## Results

The survey was mailed in April 1982, accompanied by a cover letter delineating the nature and purpose of the study. A follow-up mailing took place in June 1982. Of the 478 questionnaires mailed out, six were returned because of a wrong address, reducing the number of potential respondents to 472. Completed questionnaires were returned by 294 physicians, resulting in a combined survey response rate of 62 percent. The response rate for the practicing family physicians was 64 percent, physician faculty 97 percent, and residents 47 percent.

The relatively moderate response rate raises questions about the representativeness of the sample. To assess representativeness, the demographic, training, and practice characteristics of the respondents in the study sample were compared with comparable data obtained from the NCAFP and other published sources.<sup>16,17</sup> Comparisons between the two groups were highly similar, indicating that the physicians in the study sample were representative of the population of family physicians practicing in North Carolina. In addition, demographic characteristics of the sample are comparable to similar statistics compiled from national studies of family physicians.<sup>16,17</sup>

Physician age ranged from 26 to 73 years, with an average age of 44 years. Of the 294 physicians most were male (88 percent), white (94 percent), married (84 percent), and had completed two or more years of residency training (68 percent). The average year of graduation from medical school was 1965, with a range from 1941 to 1981.

The responding family physicians in private practice reported seeing on the average 142 patients during a normal week, during which they worked approximately 58 hours. Sixty-five percent of the community physicians had been in practice ten or more years. Years of practice ranged from 1 to 46 years. Fifty percent of the family physician faculty were in practice for ten or more years. Faculty physicians treated an average of 26 patients per week and reported spending 59 hours a week at work. Residents saw between 4 to 70 patients per week and reported working from 45 to 100 hours per week.

Pearson product-moment correlations were computed between each of the four Physician Stress Inventory subscales and the remaining social and psychologic measures. The results of this analysis for the combined group are summarized in Table 1. Parallel correlations were computed for each group separately with no substantive change in the magnitude, or direction, of the correlations. The correlations indicate that idealism was negatively related to three of the four PSI scales: internal professional stress, perceived work productivity, and external professional stress. All four subscales were significantly associated with the Zung Self-Rating Depression Scale. Physicians reporting a large number of symptoms of depression tended to possess high scores on the professional stress subscales.

Physicians indicating a high level of professional stress tended to exhibit an external locus of control orientation. These correlations support the idea that the amount of personal control perceived by individuals in their environment reduces their perception of stress.

Significant correlations between the three measures of social support and the PSI scales were found. Family esteem and communication was negatively associated with the physician stress scales. The remaining correlations were, for the most part, highly significant. Family mastery and health and peer social support were negatively related to the PSI scales. These correlations suggest that the more peer and family support the family physician perceives in the environment, the less the physician perceives professional stress.

The correlation between self-rated health and the four PSI subscales proved significant. This finding indicates that physicians who rated their

Table 1. Correlations Between Physician Stress Inventory Subscales and Related Measures

	Internal Professional Stress	Perceived Work Productivity	Interference With Family Life	External Professional Stress
Idealism	-.27*	-.17**	.04	-.19**
Depression	.44*	.53*	.46*	.29*
Locus of control	.26*	.25*	.21**	.27*
Family strengths: Esteem/communication	-.21*	-.25*	-.23*	-.20**
Family strengths: Mastery/health	-.36*	-.36*	-.43*	-.23*
Peer social support	-.20**	-.22*	-.24*	-.28*
Health	.17**	.29*	.13†	.15†

\*P < .001  
 \*\*P < .01  
 †P < .05

health as excellent or good report less professional stress than those physicians reporting their health as fair, or poor.

### Comparison Among Physician Groups

A series of one-way analyses of variance were computed using a .05 level of significance. The dependent variables were the scores on the Physician Stress Inventory, the Self-Rated Depression Scale, the Idealism scale, the Locus of Control scale, the social support subscales, and self-rated health. The independent variable was group membership (ie, private practice, faculty, or residency).

Two PSI subscales, external professional stress ( $P < .02$ ) and interference with family life ( $P < .03$ ) demonstrated significant differences among the three groups. Residents tended to report higher incidences of work interference with their family lives than did faculty, or practicing family physicians. Family physicians in private practice perceived less interference of their professional lives in their family lives. Physician faculty perceived higher external professional stress than the other two groups.

Family physicians with faculty positions scored

highest on idealism, with the residents and private physicians achieving lower scores. It may be that over years of medical practice, the family physician's idealistic sentiments erode. There was a significant difference among the three groups on the locus of control measure ( $P < .003$ ). Faculty and residents appear to be more external in orientation than family physicians in private practice. Differences in organizational structure and personal control between academic and private office settings may account for the variance in these groups.

Finally, only one social support measure, family mastery and health, significantly differentiated the three groups ( $P < .003$ ). Private family physicians had higher social support scores on this scale than the residents or faculty physicians. Residents perceived more support from their immediate family than physicians with faculty positions.

### Discussion

Findings of this study revealed that professional

stress among family physicians involves a multi-dimensional cluster of factors, including both internal dissatisfaction (irritability, frustration, isolation) and external devaluation (lack of support and recognition). In addition, declining productivity at work is associated with increased levels of personal stress. Thus, the physician experiencing job-related pressures may feel emotionally drained and less productive, yet perceive himself or herself as isolated from colleagues or family. Negative changes in attitude and behavior that characterize the professional stress syndrome in the physician are an individual phenomenon; however, impaired ability to provide effective medical care or to demonstrate an appropriate level of concern for patients is not experienced by all physicians.

Self-reported feelings of depression were highly correlated with all factors of the Physician Stress Inventory. As job-related stress increases among physicians, there is a concomitant increase in depression. Although 3 percent of physicians in this study reported clinical levels of depression, almost one third of the total sample experienced symptoms within a subclinical range. Previous research with the PSI found that depressive symptomatology represents a subset of physician stress and accounts for 9 to 25 percent of the total variance of the measure.<sup>11</sup> The affective component of depression dose represents a significant subset of the physician stress response.

Because of the idiosyncratic nature of stress, personality differences may be a critical moderating factor in professional stress.<sup>18-20</sup> The association between increased levels of stress and external locus of control indicates that physicians reporting elevated levels of stress have less control over outcomes in their environment. The ability to feel personally in charge of one's life and to perceive high levels of self-direction (internal locus of control) appears to be a positive factor in coping effectively with professional stress. Heightened levels of physician stress are not simply responses to aversive, unpleasant, or dissatisfying events. Physician response to professional stress is evidently shaped and molded by an ability to cope with work-related stress and to retain a sense of self-direction.

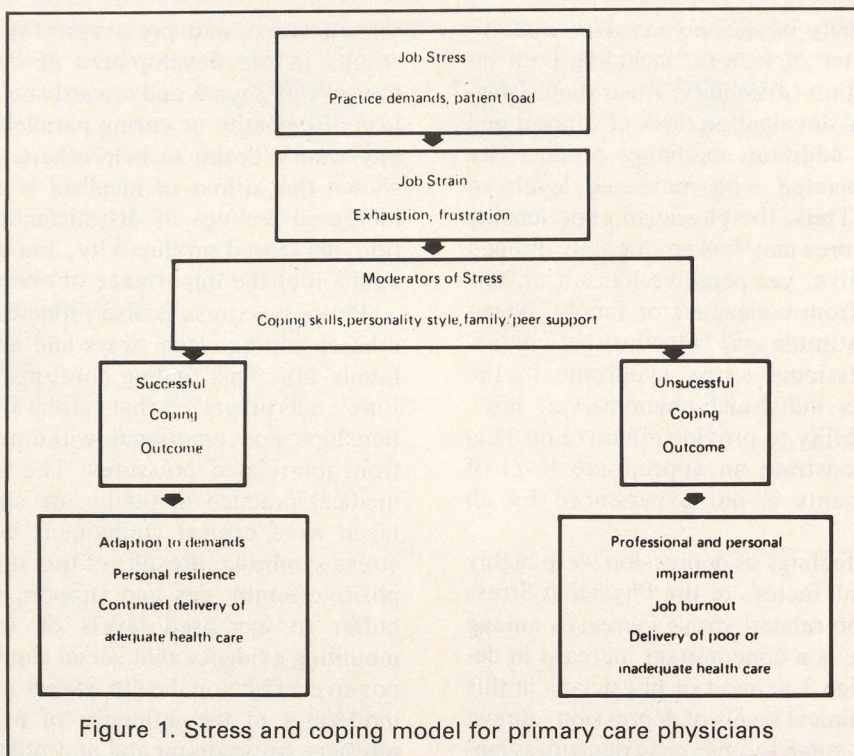
Loss of idealism has been cited previously by Maslach<sup>3</sup> as a consequence of increased job-

related stress and pressures. Job burnout often results in the development of cynical attitudes toward one's work and toward one's patients. This loss of empathy or caring parallels a decline in a physician's desire to help others. This study has shown that a loss of idealism is associated with increased feelings of dissatisfaction and frustration, decreased productivity, and a decline in recognition of the importance of one's work.

Physician stress is also reflected acutely in the relationship between stress and interference with family life. This finding confirms the position of Fine<sup>21</sup> and others<sup>22,23</sup> that retreat from family relationships and emotional withdrawal may result from job-related pressures. The inherent risk of medical practice to family life should be recognized as a critical component in the physician stress syndrome. Results of this study suggest that positive family ties and support may serve as a buffer to increased levels of stress. There is mounting evidence that social support has a direct positive effect on health status and serves as a moderator of the influence of psychosocial and physical stress on mental and physical health.<sup>24</sup>

Supportive relationships with colleagues also appear to moderate the levels of stress that physicians experience. These findings confirm and extend the previous studies by Mawardi<sup>25</sup> and McCranie et al,<sup>10</sup> who found less personal and career dissatisfaction among physicians in group practices. Examining the practice arrangements of physicians in group practice may help to understand further the effects of these partnership arrangements upon professional stress.

Differences in reported stress among residents in training, physicians with full-time academic appointments, and physicians in private practice emerged on several critical variables. Two of these differences in professional stress affect physicians in academia. First, residents perceived their training duties to interfere with family life to a greater extent than their faculty or practitioner colleagues. Frequent on-call schedules, rotating assignments and responsibilities, and lengthy clinic and hospital hours create potential and significant interferences to the maintenance of an ongoing home life. Second, physicians in faculty positions perceive less support for their work and decreased recognition for their contribution. This professional devaluation and lack of personal recognition may



lead to increased job strain, a stress that is not reported so frequently by residents or practicing physicians.

Physicians in private practice experience higher levels of family support for their work than do residents or faculty members. Private practice physicians exhibit lower levels of idealism than faculty or residents, and they report a greater sense of personal control in their lives. It is difficult to determine whether private practice develops increased self-direction in physicians, or whether physicians with higher levels of internal direction seek private practice. Regardless, this increased sense of self-determination and feelings of personal control have emerged as positive mediators of stress among family physicians. In addition, private physicians' feelings of increased family support and moderate levels of idealism may serve as a further buffer against stress. Although a loss of idealism may result from prolonged stress, a realistic appraisal of one's expectations of prac-

tice and patient care may serve as a positive stress-management technique or adaptive coping style.

### A Stress and Coping Model for Primary Care Physicians

The term *stress* refers to events in which environmental or internal demands (or both) tax or exceed the adaptive resources of an individual.<sup>26</sup> For years, researchers have suggested that work-related stress leads to dissatisfaction and psychological and somatic strain.<sup>27,28</sup> This study has found environmental as well as internal factors are affected by stress and and serve as pivotal moderators of the stress response in physicians (Figure 1).

All physicians in family practice and primary care have unique practice demands, practice characteristics, and varying levels of patient care responsibilities. Research on job demands and worker health by Caplan et al<sup>29</sup> has shown that physicians report the highest workloads, the greatest responsibility for other people, and the highest levels of job complexity. Yet it is apparent from this study that a physician's coping skills, personality style, and family and peer support are important moderators of stress and may serve as buffers to professional and personal impairment. Furthermore, by successfully coping with job-related pressures, the continued provision of high-quality health care remains intact. These findings underscore the conclusions of Kobasa et al,<sup>20</sup> Shinn,<sup>27</sup> Broadhead et al,<sup>24</sup> Williams et al,<sup>30</sup> and LaRocco et al,<sup>31</sup> who found that personal and social supports predicted improvements in mental health over time, and prevented high levels of stress from leading to increased strain.

It is recommended that future investigation of physician stress focus on further identifying the specific elements of personality style, family relationships, and practice characteristics that affect professional stress. By clarifying these stress-moderating factors, intervention strategies for preventing job burnout and remediating physician impairment may become more situation- and person-specific for the physician in primary care.

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