Occupational Stress among Physicians: Some Coping Mechanisms

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Abstract

Impairment among physicians due to high stress levels has been documented in the past, but little research has been conducted concerning the coping mechanisms physicians use to reduce their stress level. The present study analyzed responses from 377 physicians across the country to determine what methods were most effective. It is concluded that prediction of stress level on the basis of employment of 15 coping mechanisms is not possible, but that physicians with lower stress levels use 6 of the methods more than their high stress counterparts. Other demographic differences are also analyzed, and implications for the training of medical students are discussed.

OCCUPATIONAL STRESS AMONG PHYSICIANS: SOME COPING MECHANISMS

Counselors and counseling psychologists are becoming increasingly aware of occupational stress among professionals, including physicians. Pfifferling (1980) indicates that the modern profession is intensely concerned with problems of impaired physicians, many of whom are under severe pressure and suffer from a number of stress-related disorders as they attempt to reconcile the often heroic image of physicians with their individual deficiencies. The pressures that come as a result of heavy workloads, complex schedules, coping with difficult clients, maintaining currency in the profession, and preserving a satisfactory personal life increase the probability that physicians will continue to be prime victims of stress-related disorders (McCue, 1982).

Selye (1976) concluded that medical interns in many U.S. hospitals endanger both their performance and their health as a result of excessive stress. He noted that radio-telemetric observations on both medical students and physicians, taken while the subjects were performing stressful tasks, almost always revealed tachycardia, which roughly paralleled urinary catecholamine excretion.

Krakowski (1982) noted that most studies of physicians reveal a greater incidence of affective disorders, suicide, divorce, and alcohol and other drug dependence, than for the general public. Numerous authors offer support for this statement (deSole, Singer &

Arons, 1969; Sargent, Tensen, Detty & Raskin, 1977; Vaillant, Brington & McArthur, 1970; Williams, 1980). Relatedly, Selye (1974) commented that the incidence of coronary artery disease is correlated with stress, and suggested that the high percentage of A type personalities among physicians may be responsible.

Reasons for the high level of stress among physicians, as well as the nature of that stress, are varied. Numerous researchers have assessed causal factors and how such factors turn into emotional problems (Bates, 1982; Krakowski, 1982; London, 1981).

The present research, however, focuses on how physicians cope with stress. The authors believe that individuals do have the capacity to deal effectively with stress. Research on this topic has been much more limited, and is more related to conjecture or open-ended questions than to empirical methods. Marmor (1953) suggested contact with colleagues and members of other professions could be useful measures to alleviate stress. Bellak (1974) mentioned physical activity and mixing the caseload as coping mechanisms. Guggenbuhl-Craig (1971) added the need for cultural activities. London (1981) found family, hobbies, and religion to be three additional stress relievers that some physicians find helpful.

Unfortunately, none of these studies deals exclusively with physicians, thus raising the possibility that physicians may employ different coping mechanisms, or employ similar mechanisms with different frequencies. The purpose of the present study is to look at how physicians cope with stress, and to attempt to differentiate

between those reporting high stress and those believing they have low stress, on the basis of their use of various coping mechanisms. Through these results, it is hoped that counselors and medical educators can suggest coping techniques to their students and encourage the use of such techniques in the attempt to deal positively with stress.

Procedure

A total of 1,000 physicians was randomly selected from across the United States via an APA listing and sent a one-page questionnaire asking them to rate their use of 15 coping mechanisms on scales of 1 to 4. In addition, they were asked to rate how stressful they perceived the practice of medicine to be on a scale of 1 to 10, what their specialty was, and what type of practice (e.g. office, hospital, research, etc.) they maintained.

After follow-up procedures, there were 377 usable replies to the questionnaire. The resulting data were analyzed by multiple regression and multivariate analysis of variance (MANOVA) to look for differences in the use of coping mechanisms among those with high versus low self-reported stress.

Results

A forward stepwise multiple regression was used to determine how much overall stress level could be accounted for by the 15 coping mechanisms. The optimum equation yielded an R^2 of .119, indicating that overall stress level cannot be adequately predicted by the extent to which physicians use the 15 coping strategies. As a group,

the 377 physicians reported a mean overall stress level of 5.92, with a standard deviation of 2.15.

A reviewer of a previous version of this article suggested that a matrix be obtained of the correlation of the items with each other, and that negatively correlated items be eliminated on the grounds that they do not measure the coping concept. When this was done, there were only two negative correlations, and it was believed that the advantages of re-analyzing the data were not enough to justify disruption of the integrity of the questionnaire. Cronbach's alpha was .74, giving further indication that the measure is reasonably internally consistent.

The physicians were put into two groups based on a median split of their overall stress level. A one-way MANOVA (Stress Level) using all 15 questions as dependent variables was performed to determine what coping mechanisms low stress physicians employ that their high stress colleagues do not. The overall MANOVA was significant (T^2 = .12, $p < .001$), allowing subsequent analyses of the univariate cases, a procedure seen as viable by Tabachnick and Fidell (1983), among others. The risk of an inflated Type I error rate does exist, encouraging caution in interpretation. Lower-stressed physicians engaged in six coping strategies more than higher-stressed doctors, as indicated in Table 1.

Table 1

Means, Standard Deviations, and Differences in High Versus Low Stressed Physicians for 15 Coping Mechanisms

	Item	$\bar{X}$	SD
1.	I cultivate non-medical interests.	3.10	.75
*2.	I distribute my workload evenly in terms of time.	2.67	.73
3.	I set realistic goals for myself.	2.89	.67
*4.	I derive professional satisfaction from my medical specialty.	3.36	.58
5.	I share coverage of my patients with other physicians.	3.16	.89
6.	I take frequent vacations.	2.41	.84
7.	I develop my professional competence.	3.41	.60
8.	I maintain effective communication and good rapport with other physicians.	3.36	.58
*9.	I distinguish my personal responsibilities from my professional responsibilities.	3.28	.66
*10.	I engage in physical exercise.	2.83	.87
11.	My office staff is effective with patients.	3.24	.56
12.	I give my patients educational information about their medical conditions.	3.12	.80
*13.	I receive adequate rest and relaxation.	2.66	.71
14.	I strive to develop a strong family life.	3.34	.66
*15.	I maintain a sense of humor.	3.24	.60

*statistically significant ($p \leq .05$)

Males and females did not differ in overall stress level (t = .57, NS), or in their responses to the 15 questions (T^2 = .05, NS). It should be noted, however, that only 28 subjects identified themselves as female.

No differences were found when looking at the geographic region in which the physicians practice. This was true both for the stress level (F = .26, NS) and for their employment of the coping mechanisms (T^2 = .22, NS).

Different specialties did not differ in their overall stress level (F = 1.78, NS), but a significant MANOVA (Specialty) allowed analysis of the 15 coping questions. The only significant difference was in the amount a physician shares patient coverage with other physicians, and a Newman-Keuls post-hoc test showed that psychiatrists utilize this mechanism less than seven other specialties. This seems to be due less to any intrinsic characteristics of psychiatrists than to the nature of their practice.

Physicians were asked whether their practice was private, hospital based, a combination of private and hospital work, administrative, teaching and research, or other. There were no significant differences in the overall stress level of practitioners in different types of practices (F = 2.19, $p < .055$). Because of the closeness to significance of this statistic, however, it can be noted that those combining hospital work and a private practice had the highest level of stress, and those in administration the lowest. A

MANOVA looking for differences in the use of coping mechanisms among those with different types of practice was significant (T^2 = .34, $p < .01$), and subsequent analyses and Newman-Keuls' post-hoc tests showed that physicians combining a hospital and private practice felt that they maintained communication and rapport with other physicians more than did doctors working either in a hospital or in a private practice. It also showed that private practitioners reportedly give their patients more educational information than those combining private practices and hospital work.

Discussion

On a scale of 1 to 10, where 1 represented a value of not stressful and 10 was labeled extremely stressful, the national group of physicians reported a mean stress level of just more than the median value possible. This result indicates that physicians do believe that the practice of medicine is stressful, and corroborates the finding of Walton, Walton and Zook (1986). Following this finding, which held true for all specialties, types of practice, regions of the country, and sexes, the present study attempted to find what coping mechanisms physicians found useful in the reduction of stress.

An attempt to predict stress level by the rate of use of 15 coping mechanisms accounted for less than 12% of the total variance. This supports the authors' supposition that coping mechanisms are an individual attribute. A method or combination of methods that helps alleviate stress in one physician may be ineffective for a second

doctor. Each physician must find the factors that seem to alleviate stress most effectively for him or her.

It is possible, however, to determine if those with a lower stress level use the coping mechanisms to a different extent than those reporting more stress. In other words, it is relevant to determine if some coping mechanisms are more related to stress level than are others.

The lower stress group used six coping mechanisms more than did their more stressed counterparts. First, they engage in more physical exercise. In light of the recent exercise emphasis and reports of its healthiness, this is not surprising. At the same time, physicians reporting lower stress stated that they received more rest and relaxation. The ability to relax is apparently important, and is corroborated by the finding that they also take pains to distinguish their personal lives from their professional responsibilities. Also related is the finding that those with lower stress report that they distribute their workloads evenly in terms of time more frequently than their more stressed colleagues. All of these suggest that lower stressed physicians recognize their limits, and know when to disengage themselves.

The fifth significant factor is satisfaction with medical specialty. It appears as if those who had the foresight or good fortune to select a specialty with which they would be satisfied, or who have adjusted their cognitions to ensure satisfaction, have less

total stress. It is important, then, for medical students to choose carefully what specialty they will enter.

Finally, physicians who believe they maintain more of a sense of humor report lower stress levels. This coping mechanism was not expected to be one of the most effective methods, but was highly significant.

The finding that no differences are present for geographic location or gender, either in stress level or in employment of the coping mechanisms, suggests that the data has external validity. The same finding was true for the specialty factor, with the exception that psychiatrists were less likely to share patient coverage than seven other specialties. Because of the especially sensitive nature of doctor-patient relationships in psychiatry, as well as ethical and legal considerations, this is an expected finding.

Physicians who combined hospital work and a private practice had a higher stress level than other specialties, although this finding did not attain statistical significance. The present authors suggest that those physicians combining these practices may be overworking themselves, thus causing excessive stress. One thing that may help this dual practice bind from being even more stressful is that these doctors are reportedly more likely to maintain effective and good rapport with other physicians than those in either practice alone.

The other difference in the use of coping mechanisms by type of practice was that those in private practice were more likely to report that they give their patients more educational information

than those combining a private practice with hospital work. Reasons for this finding are unclear.

The authors suggest that individuals who wish to help physicians or future physicians reduce their stress levels can use the present study as a guide. Suggesting coping mechanisms which the present study showed to be effectively employed by lower-stressed physicians will help doctors and medical students lower their stress level. The present authors suggest that a unit on stress and coping mechanisms be included in medical schools' curricula, possibly as part of a course on ethics or human behavior. If students can learn early how to deal with stress and gain knowledge of some coping mechanisms that seem to work, prognosis for their future stress level should be improved.

Several considerations should be kept in mind when using the information in this study. First, the authors used a self-report inventory, with neither the overall stress level nor the coping mechanisms reported by an external source, and neither was covertly obtained. Also, a finite number of coping methods was presented. It is likely that some physicians find other coping techniques more useful than those given. While most common methods were covered, others do exist.

Second, individual differences are relevant. While the findings reported here are true for physicians as a group, each doctor is a separate individual. He or she has interests, a background, and

capabilities which may be different than physicians as a whole. Whenever possible, individual coping mechanisms should be used.

Thirdly, the return of usable questionnaires (37.7%), while considered good for physicians, does place limitation on the ability to generalize their results. Although the present findings are not definitive, they do provide a starting place which medical educators can use to help medical students reduce their level of professionally-related stress. The alternative, as noted in the literature review, may make itself evident with continued high levels of impairment among physicians.

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