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Work-related behaviour and experience patterns of physicians compared to other professions

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Summary

Objectives: To identify health risk factors and resources of physicians in comparison with other professions.

Methods: Data of cross-sectional mail surveys conducted among German physicians (n = 344), teachers (n = 5169), policemen (n = 851), prison officers (n = 3653), and starting entrepreneurs (n = 632) were analysed regarding eleven health-relevant dimensions and four behaviour patterns examined by the questionnaire "Work-Related Behaviour and Experience Pattern (AVEM)".

Results: Only 17% of the physicians showed healthy behaviour and experience patterns. With 43%, they scored highest in terms of reduced working motivation. Together with the teachers, they also had the highest scores for resignation and burnout (27%). Satisfaction with life and work as well as social support showed medium scores. Starting entrepreneurs showed the healthiest patterns (45%), but also the highest risk pattern for overexertion (38%).

Conclusions: It was possible to identify clear risk patterns for profession-related psychosocial symptoms and impairments. The high scores for reduced working motivation demonstrate the need for interventions to improve organisation of health care and individual coping strategies.

Key words: health of physicians; psychosocial health risks and resources; work-related experience and behaviour; prevention and health promotion

Introduction

Well-documented and still growing evidence shows that physicians bear an elevated risk of psychosocial and mental stress and illness. Long working hours, responsibility, the necessity to make decisions despite uncertainty, sleep deprivation, forensic issues, and an overwhelming burden of administration can lead to burnout, depression, alcohol and substance abuse, or even suicide [1, 2]. According to Schumacher, the former president of the Canadian Medical Association, burnout rates in Canada reached an all-time high, involving approximately 46% of the physicians [3]. Unfortunately, either there is little awareness of the impact of the burdens and strains leading to impairments in physicians, or else the medical profession still makes great efforts to play down the personal vulnerability of physicians [4]. It is therefore essential to direct more attention to prevention of impairments and promotion of health for physicians themselves.

In this study, it was our aim to evaluate in which areas of profession-related behaviour and experience of physicians, risk factors for burnout and mental illness could be identified, and which health resources should be strengthened. A second question was to what extent these patterns are typical for physicians and how they compare with other professions. By selecting teachers, starting entrepreneurs, policemen, and prison officers for comparison, we chose professions characterised by high and constant contact and interaction with people, and thus by a higher degree of psychosocial demands than other professions. The expectations and hypotheses derived from the literature were that physicians would show signs of high responsibility and perfectionism, but that there would also be a substantial risk for depression and burnout. This might contrast to other professionals who show healthier patterns and fewer patterns of strain. The starting entrepreneurs, in particular, were expected to show healthy – or, to a greater extent, overambitious and self-exploiting behaviour patterns.

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Methods

Sample and study design

We evaluated the data of mail surveys in German physicians, teachers, policemen, prison officers, and starting entrepreneurs. Data for physicians were collected in 2005 in a postal survey in three different federal states of Germany. The response rate was 31.6% (n = 381). The data of physicians in their third to eighth year of professional work were analysed (n = 344). 80% worked in inpatient institutions (hospitals, rehabilitation clinics), the others in private practice or other areas.

The data for the other professions were taken from several German samples gathered between 2000 and 2002 in two research projects on the health situation of employed persons. One was the study "Psychological Health in the Teaching Profession" which was supported by the German Federation of Career Public Servants (dbb) and collected data from teachers and other professionals in multiple surveys. The other was a survey supported by the Credit Agency for Reconstruction (KfW) which contacted 5000 business starters, 2000 of whom were interested in participating in the study and were sent a questionnaire. The response rate was n = 632 (31.6%). In both cases, the primary goal was not the collection of a representative, but of an ad hoc sample (for detailed description, see [5, 6]). Table 1 shows the sample characteristics of the professional groups compared (table 1).

Questionnaire

In addition to a set of demographic questions, we used the questionnaire "Work-Related Behaviour and Experience Pattern" (AVEM) for the evaluation of individual psychosocial behaviour and experience, a questionnaire comprising 66 statements describing attitudes, experiences, and thoughts regarding work situations [6].

The AVEM covers three domains that are highly relevant for the analysis of health- related professional demands:

1. Professional commitment
2. Resistance to stress
3. Emotional well-being

These three domains are subdivided into eleven dimensions:

1. Subjective significance of work
2. Career ambition
3. Tendency to (over)exert
4. Striving for perfection
5. Emotional distancing
6. Tendencies toward resignation
7. Offensive coping with problems
8. Balance and mental stability
9. Satisfaction with work
10. Satisfaction with life
11. Experience of social support

Table 1

Sample description of the professions compared.

	Age (SD)	Sex (male %)
Physicians n = 344	34 (3)	49
Teachers n = 5196	46 (9)	39
Starting entrepreneurs n = 632	37 (7)	70
Policemen n = 851	42 (9)	82
Prison officers n = 3653	46 (9)	82

Cluster analysis of the data in the reference sample led to four different types of work-related experience and behaviour patterns [6]:

1. Type G: The "Healthy-Ambitious" Type

This pattern represents a healthy attitude towards work. The individuals are ambitious at work (high scores in the dimensions significance of work, career ambition, tendency to (over)exert, striving for perfection), but also able to keep emotional distance from work (dimension emotional distancing). They score high in those dimensions that represent resistance to stress (offensive coping with problems, balance and mental stability, low scores in tendencies toward resignation) and in all dimensions related to positive emotions (satisfaction with work, satisfaction with life, social support).

2. Type S: The "Unambitious" Type

Characteristic for this pattern is a rather unambitious attitude towards work with lowest scores in those dimensions describing commitment to work and highest scores in the capacity to distance. Nevertheless, low scores in tendencies towards resignation and medium to high scores in inner balance, satisfaction with life, and the experience of social support suggest, overall, a positive experience of life. The challenge of this pattern is less in health than in promoting motivation.

In contrast to the first two behaviour styles, the following two have repeatedly been shown to be linked to illness. They therefore play a key roll in preventing impairment and promoting health.

3. Risk Type A: The "Excessively Ambitious" Type

This pattern is characterised by excessive professional commitment and difficulties with emotional distancing from work. In addition, impaired defence mechanisms in stressful situations as well as negative emotions characterise this exhausting pattern. We assume an association with the type-A behaviour described for coronary artery disease and myocardial infarction.

4. Risk type B: The "Resigned" Type

Individuals with this pattern show low scores on the dimensions related to professional commitment. They score high on tendencies toward resignation and correspondingly low on emotional distancing and active coping. Their emotional status is characterised by low scores of balance and mental stability, satisfaction with work, satisfaction with life and experience of social support. This pattern presents the core symptoms of the burnout syndrome.

With a weighted linear combination of the scores of the AVEM dimensions, the concurrence between the four reference profiles and the individual data scores can be estimated for every person of the samples presented here [6].

Statistical analysis

For statistical analysis, we used the statistical package SPSS (Version 10.0). Differences between behaviour patterns were tested with χ^2-test. Given the ad hoc samples we focused on descriptive statistics rather than statistical inference.

Results

Behaviour patterns

Of the physicians 80% worked in hospitals or rehabilitation clinics. The numbers of the physicians working in non-hospital institutions (single and group private practice n = 23 each, others n = 22) were too small to be analysed separately. Only 17% of the physicians showed the healthy pattern G. The most common pattern was type S, with 43%. Of note was the high percentage of risk pattern B (27%) (figure 1). Together with the teachers, the physicians' percentage of risk pattern B was the highest of all the professions examined here, whereas the starting entrepreneurs showed the lowest proportion, with 8%. The high scores of risk pattern B and the low scores of pattern G (18% *vs* 17%) showed considerable similarities between teachers and physicians. However, teachers showed higher scores of risk pattern A (29%) and lower scores of pattern S (25%) than physicians. With 56%, teachers showed the highest numbers of risk patterns of all the professions. Differences between behaviour patterns in teachers in relation to school type were neglectable. Women showed however, constantly less favourable patterns in all school types. The starting entrepreneurs were second highest in risk patterns (46%) due to high numbers of risk type A. Physicians followed with 40% risk patterns. Physicians working in general hospitals compared to those working in university hospitals showed more often S and B patterns and less often G and A patterns. Policemen and prison officers showed higher numbers of healthy G pattern, higher proportions of risk type A and lower S or B patterns than physicians. The starting entrepreneurs showed a very different distribution compared to the other professions, with high values of G and risk type A, but low numbers of S and risk type B. Differences in the pattern distributions between the professions were highly significant ($p < 0.01$).

Health relevant dimensions

At the level of the dimensions physicians showed lowest scores for subjective significance of work, striving for perfection, and offensive coping with problems and highest scores for resignation tendencies (table 2). The dimensions of satisfaction with life and work or social support were in the mid-range compared to the other professions. The starting entrepreneurs scored the highest in the domains of professional commitment and emotional well-being and in the dimension of offensive problem-solving. Policemen and prison officers had the lowest scores in satisfaction with life and work and the highest in emotional distancing from work. In the latter dimension, the

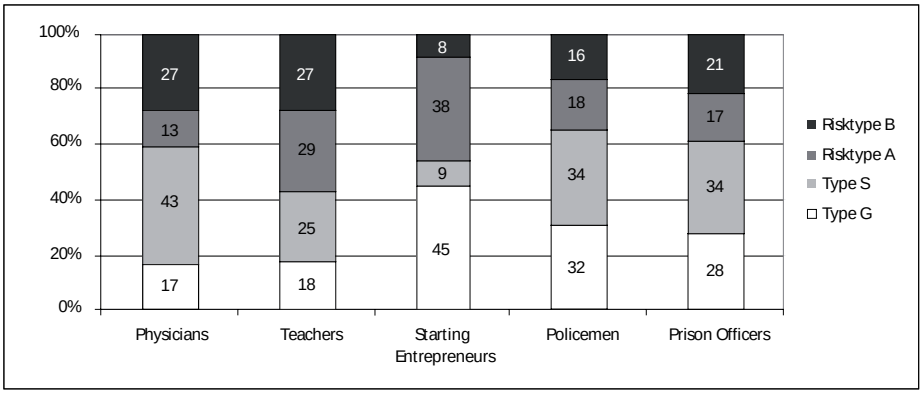

Figure 1

Experience and behaviour patterns of physicians compared to other professions. Type G: healthy pattern, Type S: unambitious pattern, Risk type A: pattern of overexertion, Risk type B: resigned pattern.

Table 2

Health-related dimensions in physicians compared to other professions. Highest scores are marked bold, lowest in italics.

Dimensions	Physicians (1)	Teachers (2)	Starting Entrepreneurs (3)	Policemen (4)	Prison officers (5)
Subjective significance of work	*13 (5)*	16 (5)	**18 (5)**	15 (5)	15 (5)
Career ambition	18 (5)	*17 (5)*	**23 (4)**	19 (5)	19 (5)
Tendency to exert	19 (5)	20 (5)	**21 (4)**	*18 (4)*	19 (5)
Striving for perfection	*21 (4)*	22 (4)	**24 (4)**	23 (4)	23 (4)
Emotional distancing	19 (5)	16 (5)	*15 (5)*	19 (5)	**20 (5)**
Resignation tendencies	**17 (5)**	16 (4)	15 (5)	*14 (4)*	15 (4)
Offensive coping with problems	*21 (4)*	22 (4)	**24 (3)**	23 (4)	22 (4)
Balance and mental stability	20 (5)	*19 (5)*	20 (4)	**21 (4)**	21 (4)
Satisfaction with work	23 (4)	23 (4)	**24 (4)**	21 (4)	*20 (4)*
Satisfaction with life	22 (5)	22 (4)	**23 (4)**	21 (4)	*21 (4)*
Experience of social support	23 (5)	23 (4)	**23 (5)**	23 (4)	*21 (4)*

physicians followed closely. The lowest scores in this dimension were seen among the starting entrepreneurs and the teachers. In the dimension experience of social support, only the prison officers differed significantly from all other professional groups. Starting entrepreneurs scored highest in this dimension, the prison officers lowest.

Discussion

For the present study, we chose an instrument addressing work-related behaviour and experience patterns which could be either beneficial or hazardous for individual health. It is important to notice that most of the dimensions concerned could be both risks or resources, depending on the intensity and personal perception of each individual case. Even social support has been shown not to be a positive value in and of itself, but could also be perceived as a strain [7, 8].

Reduced working motivation and resignation

One of the most impressive results of this study was the high proportion of the S pattern in physicians. The low subjective significance of work and the high scores on emotional detachment could be interpreted, on the one hand, as a sound distancing from work. This would be congruous to the combination of low career ambition with positive feelings about life and work. It is noteworthy that policemen and prison officers show similarly high ratings on emotional distancing. We assume that this may be a sign of inner hardening against the adversities peculiar to the profession. On the other hand, it could be interpreted as the first signs of anxious restraint or resignation due to disillusionment with job or career expectations, or to an overwhelming workload. With regard to the findings of increasing dissatisfaction with work, life and working conditions of physicians over the past decade [9, 10], together with increasing burnout rates [3, 11], the latter perception seems to be more appropriate. This is also supported by the high level of risk type B and the lowest scores on the healthy G pattern among the physicians in the present study. Based on the results of longitudinal studies in teachers [5], we may assume that there is a gradual transition from G to S to B. Further longitudinal studies are needed to support this assumption among physicians. Risk pattern B, presenting the core of the burnout-symptoms, was higher among the German physicians analysed here compared to burnout scores of Swiss primary care practitioners [13] or scores for emotional exhaustion and depersonalisation of Italian physicians working in hospitals [14]. Analysed separately, physicians working in general hospitals showed less favourable behaviour patterns, with lower healthy G and higher resigned risk type B patterns than those working in university hospitals. Due to the relatively small numbers for each pattern, these results have to be interpreted with caution.

There are a number of studies revealing perfectionism as a typical trait of physicians, which, on the one hand, could support career development and quality of patient care, but, on the other hand, may also be seen as a risk factor for psychosocial health [2, 15]. In contrast, in the present study, physicians had the lowest scores of all the professions in this dimension. This enhances the impression of inner distancing from work.

Systemic approach is necessary

Data from a survey of nurses showed a distribution of patterns quite similar to that shown here for physicians, with high S, high B and low G types [16]. The professional background characteristic for the nurses is one of increasing administration, regulation and workload which is not very different from that of the physicians. The authors interpret the high S pattern as either a reaction to dissatisfying working conditions or as an excessive use of a coping strategy. The distribution quite similar to the physicians may also be an important clue to the presence of systemic organisational patterns in health care which ought to be addressed for the benefit of the health and the motivation of health care professionals. It should be emphasised that addressing systemic issues of healthy workplaces is not only necessary for the benefit of the physicians' health, but could also improve the quality of patient care [17].

Physicians, business enterprise and risk for burnout

The results of scientific investigations of teachers have shown high stress levels and health risks. Early retirement due to psychosocial strains and impairments are common in this profession [18–21]. The low scores for the healthy pattern G and the high scores for the burnout pattern B are quite similar among teachers and physicians. Teachers show higher exhausting type A patterns, physicians higher patterns of reduced working motivation (S). There is a clear contrast to the totally different patterns of starting entrepreneurs who show the highest scores for healthy patterns and the lowest for patterns of reduced motivation. As expected, they are particularly at risk with their high proportion of the exhausting risk pattern A. Since the mean age of physicians and starting entrepreneurs is in the mid-thirties, age might not exercise much influence. In this study, starting entrepreneurs were predominantly male, teachers were predominantly female, whereas gender distribution among physicians was almost equal between male and female. Given the less favourable

behaviour and experience patterns in women compared to in men in this study, gender may have a more important influence than age. Taking into account the fact that many physicians start a business of their own with a private practice, the totally different pattern of starting entrepreneurs is even more striking. In this study, the majority of physicians were working in in-patient institutions. It would be interesting to evaluate the behaviour and experience patterns of physicians working in private practice. The small number of participants in this study working in private practice did not show patterns significantly different from those working in hospitals.

It should be noted that policemen and prison officers show the second-highest healthy G pattern and the smallest number of risk patterns A and B of all five professions. Perhaps there is a beneficial effect of the physical training common among policemen. Perhaps they also perceive a different level of responsibility in their work than physicians and, as could be seen in our results, a higher distancing from work than teachers. Nevertheless, they showed the lowest scores in satisfaction with life and work, and more than one third showed psychosocial risk patterns and strain, which might be due to an imbalance of work demands and gratification (eg salary, "client" feedback). These data support the vulnerability for burnout not only in the helping professions, but also in teachers, policemen, and prison officers [22].

Limitations

Cross sectional studies such as the one presented here preclude evaluation of the temporality and causality of the observed associations. As we collected data with ad hoc samples, we could not prove that the data gathered here are representative for the respective professions. There are also differences in the distribution of age and sex in the study groups. Prison officers, policemen, and starting entrepreneurs show a high proportion of men, teachers a high proportion of women, whereas the distribution of gender in the younger physicians is almost equal. The average age of the business starters and, by selection, of the physicians was much lower than that of the other professions. We therefore abstained as far as possible from statistical inference and concentrated on descriptive statistics.

Conclusions

The results of the physicians compared to the other professions presented here are quite different from the enthusiasm and motivation expected from a profession commonly considered to be a calling. It seems obvious that organisational and behavioural aspects must be addressed, not only in order to promote the health of physicians and to prevent impairments, but also to ensure and improve the quality of patient care. These topics should be emphasised in postgraduate training and education, but should also be taught in medical schools as a required part of the curriculum.

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