

Measuring morale — does practice area deprivation affect doctors' well-being?

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SUMMARY

Background. *Morale is a perennial concern in general practice and, over the years, a variety of tools have been used to examine doctors' mental well-being in a range of psychological and sociological studies. Despite perceived associations between low morale and practice area deprivation, this has not been investigated previously.*

Aim. *To devise and apply a measure of mental well-being in general practitioners, and to use this to investigate the effect of practice area deprivation.*

Method. *A questionnaire was devised and piloted, then used in an anonymous postal survey of a random sample of 500 London general practitioners, with questions on demography, workload, practice characteristics, patient centredness, and practice area deprivation.*

Results. *A total of 334 (68%) doctors replied to the questionnaire. Of these, 45% often feel exhausted, 46% are often frustrated by trivial consultations, and a third are seriously disenchanted with work. The resulting well-being score had a normal distribution, was reproducible (test-retest reliability = 0.91), and was internally consistent (Cronbach's alpha = 0.76). Comments from respondents suggested good face validity. Low well-being was not associated with practice area deprivation, but was associated with time stress, small practices and primary care teams, and lack of patient centredness.*

Conclusion. *The instrument provided a useful tool for examining doctors' well-being and the associations thereof. Well-being was not associated with practice area deprivation. Help for small primary care teams and measures to reduce time stress should help to improve morale.*

Keywords: depressed areas; morale; general practitioners; questionnaire survey.

Introduction

THE 1990s have seen increasing concern about low morale in general practice.¹ Many general practitioners (GPs) are retiring early or changing career midstream, and both training schemes and doctors looking for partners are having recruitment problems.² These problems are commonly perceived to be particularly severe in inner cities and deprived areas. The survey described in this paper was therefore designed to explore the hypothesis that low morale is related to the deprivation of the practice area.

Concern about morale has been present to a greater or lesser extent for at least the last 40 years. The 1965 'GP charter' was a reaction to a previous crisis and, although general practice became a popular career aim in the 1980s, 'stress' was still topical throughout this time.³⁻⁷

Over the years, the subject has been explored in different

ways; for example, sociologists ask their subjects if they enjoy their work, are satisfied with their work, or if they have regretted becoming doctors.^{8,9} Lack of enjoyment seems to be related to finding more consultations to be trivial.⁸ Questionnaires originally designed to screen for mental illness; for example, the General Health Questionnaire (which screens for depression)⁶ or the Crown Crisp Experiential Index (which gives scores for anxiety and depression),⁷ are often used by psychologists.

More recently, burnout has become topical¹⁰⁻¹³ — this is a construct with three dimensions: emotional or physical exhaustion, treating people as objects, and lowered job productivity.¹¹ The term burnout implies an either/or phenomenon, although the most usual instrument used for its measurement produces a score with no clear cut-off point.¹²

Other workers have explored the concepts of 'stress' and 'job satisfaction'.^{3-5,7} Each has been used as an outcome and as explanatory variables. Many of the measures used result in long and complex questionnaires with variable face validity for respondents — length, ease of response, and perceived relevance all strongly affect response rate.

This paper describes an attempt to devise a short, user-friendly measure for GP 'well-being'. This was then used to explore the hypothesis of interest, i.e. that well-being is related to practice area deprivation. A variety of demographic, structural, and workload factors that might act as potential confounders were also measured.

Method

Devising a measure

Items for the questionnaire drew on the papers discussed above and were designed to measure feelings of exhaustion and disenchantment (two questions), frustration with trivia (one question), failure (two questions), isolation (one question), and alienation (two questions), with two global questions on enjoyment of work and career satisfaction. The whole questionnaire fits easily on one side of A4 paper. Doctors were asked to rate the extent to which each question or statement fitted their state of mind over the previous three months, using a Likert-type scale.

Explanatory variables

For the full study, the surgery's postcode was used to measure deprivation. Confounding variables measured included patient centredness (seven questions devised by Grol *et al*¹⁴), demography, practice characteristics, and workload. The primary care team was assessed by calculating the number of different types of staff either employed or attached, regardless of hours worked; for example, two practice nurses + five receptionists + one attached district nurse = three.

Workload was assessed by asking doctors to estimate numbers seen, hours of paperwork, etc., and by subjective measures.

The Maslach burnout inventory was also included.¹⁵

Pilot study

A shortened version of the questionnaire was piloted on 50 doctors randomly selected (by computer program) from the area of interest. After four weeks, a second mailing was sent including the new measure, a few selected explanatory variables, and a

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'comments' section to test for test-retest reliability, user friendliness, and major omissions. As a result of the comments, the Likert scale for the new measure was expanded to include 'sometimes' between occasionally and regularly, and two questions on paperwork were added to the explanatory variables.

Full survey

Each GP on the lists of three London family health services authorities (FHSA) was allocated a number unique to the study. Then, 170 doctors were selected randomly (by computer program) from each FHSA, excluding those who had been mailed in the pilot. A power calculation had suggested that 500 subjects should be sufficient to ascertain a 5% difference in well-being between doctors working in areas with different degrees of deprivation with 95% power, assuming a 70% response rate. Responder anonymity was guaranteed. Non-responders (identified by code) were remailed after four weeks and telephoned after a further four weeks. All the replies were loaded onto a computer spreadsheet and analysed using the 'Minitab' computer package.¹⁶ Correlation coefficients quoted are Pearson product moment coefficients.

Results

Response

The pilot survey of 50 doctors had a response of 30 to the first mailing and 24 to the second, with 22 complete pairs available for analysis.

The base population was 877, of whom a sample of 516 were selected. A total of 27 were ineligible (seven on maternity leave, five on sick leave, 12 left or retired, one on sabbatical, one dead, one 'not at this address'). The overall response was 334, giving a response rate of 68%. The response rate for the different explanatory variables varies, so denominators vary.

The sample drawn was representative of the population of GPs. There was very little variation between FHSA. There was an insignificant tendency for a higher response rate from women (73% for women versus 66% for men) and a lower response from small practices (one doctor, 63% response; 2-3 doctors 59% response; 4-6 doctors 78% response; 7-12 doctors, 96% response; $P < 0.005$, ANOVA). There was a mild association between speed of reply and well-being (see below; correlation -0.19 , $P = 0.001$), with demoralized doctors responding faster.

Assessing the well-being measure (Table 1)

Of the respondents, 45% of GPs feel exhausted 'often' or 'more frequently' (score < 2), and 46% are often frustrated by trivial consultations. A third of GPs are often disenchanted with work, 46% often feel that they are not enjoying work as much as before, and a third would probably or definitely not be a GP again, given a choice. Experience of directly expressed negative feelings for patients seems relatively rare (3% score this often or more frequently), but 7% often feel that they have failed, and 13% that they have compromised standards. Some 14% often feel isolated, and just over one in five often feel that they are not appreciated.

Scores for individual questions were summed to give an overall 'well-being' score. The mean score was 32.8 (SD = 8.1), median 33; the 99% confidence interval for the mean was 31.9-33.7, first quartile 28, third quartile 39, with a range of scores from 11 to 52. Thus, although this is an integer score, it approximates to a continuous variable with a normal distribution (see Figure 1). For this reason, it was felt that parametric statistics, while not strictly correct, should be robust enough to handle the data.¹⁷

Reliability

The measure was reproducible.¹⁸ Test-retest reliability was 0.91, $P < 0.001$ (correlation coefficient, $n = 22$, pilot). Internal consistency appeared to be satisfactory.¹⁸ Cronbach's alpha for homogeneity was 0.76. Item-total correlation for each question (computed by regressing the score for each question against the sum of the remaining questions) ranged from 0.38 to 0.70. The highest correlations were for question 2 (feeling bored, frustrated, or disenchanted: 0.70), question 1 (feeling exhausted: 0.59), question 3 (being frustrated by trivia: 0.57), and question 7 (feeling isolated: 0.56).

Face validity of well-being measure

Invited comments tended to support the validity of the measure (see below).¹⁸ There were 260 topics of complaint from 145 individuals. The mean well-being score for these individuals was 30.8. Six individuals made comments about enjoying work — their mean well-being score was 38.7. Favourite topics of complaint concerned paperwork (33 comments), patient demands (29), the new contract and government policy (29), lack of time or excess workload (25), lack of resources or support from hospital or community services (19), and lack of FHSA recognition or support (17). Examples include:

- 'Something must be done' — score 22
- 'I'm past caring about getting behind. Let the B..... wait' — score 27
- 'I feel that I have lost my way' — score 15
- 'Undervalued' — score 22
- 'I am giving up general practice' — score 23, and,
- 'I enjoy general practice very much' — score 43.

Relationship between well-being and burnout scores

There was moderate correlation between the total score and the Maslach inventory: 0.69 for emotional exhaustion ($P = 0.001$), 0.49 for depersonalization ($P = 0.001$), and 0.20 for personal achievement ($P = 0.001$).

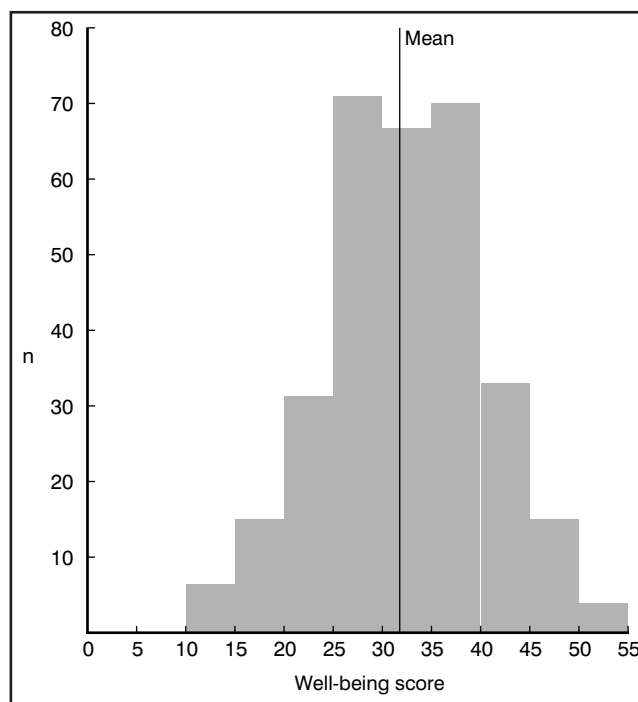


Figure 1. Histogram of well-being scores.

Table 1. Well-being questionnaire numbers (%).

Question Over the last three months (Score)	Never 5	Occasionally 4	Sometimes 3	Often 2	Regularly 1	Most of the time 0	n
1. Have there been times when you have felt exhausted physically, emotionally or intellectually?	9 (3)	63 (19)	109 (33)	70 (21)	64 (20)	12 (4)	327
2. Have there been times when you felt bored, frustrated or disenchanted with your work?	24 (7)	79 (24)	117 (36)	51 (16)	48 (15)	8 (2)	327
3. How often have you felt frustrated by the proportion of your work that consists of seeing patients for problems that are trivial, unnecessary or inappropriate?	18 (6)	70 (21)	87 (27)	75 (23)	61 (19)	15 (5)	326
4. Have there been times when you have felt that you had failed in your work?	38 (12)	158 (48)	108 (33)	16 (5)	5 (2)	2 (1)	327
5. Have you found that you didn't really care very much about your patients and what happened to them?	147 (45)	117 (36)	51 (16)	6 (2)	3 (1)	1 (0.5)	325
6. How often do you feel that you have compromised your clinical standards?	39 (12)	142 (44)	103 (32)	24 (7)	11 (3)	6 (2)	325
7. How often have you felt isolated in your work?	87 (27)	103 (32)	91 (28)	23 (7)	14 (4)	8 (2)	326
8. Have you felt that you were not really appreciated by patients, staff, colleagues or the FHSA?	53 (16)	91 (28)	112 (35)	37 (11)	22 (7)	(9) 3	324
	Yes 4	Probably 3	Not Sure 2	Probably not 1	Definitely not 0		n
9. Have you enjoyed your work as much as ever?	57 (18)	62 (19)	56 (17)	94 (29)	54 (17)		323
10. If you could have your life again, a) would you choose to work as a GP?	90 (28)	57 (18)	67 (21)	71 (22)	40 (12)		325
b) would you work in this area?	90 (28)	74 (23)	58 (18)	74 (23)	29 (9)		325

Investigating possible explanatory variables

Following the advice of Rose,¹⁹ the well-being score was used to investigate explanatory variables, rather than choosing an artificial cut-off point, and the nature of the associations explored; for example, is any suggested relationship continuous or more complex?

Statistical *t*-tests were used for binary variables and ANOVA for categorical variables or stratified continuous variables.

Deprivation, as measured by underprivileged area (UPA) score^{20,21} for the postcode area of the GPs' surgeries, varied between FHSA's (mean scores 21, 32, and 44). It was associated with greater numbers of small practices, below-standard premises, high weekly consultation rates, finding keeping to time stressful, and crime. It was not, however, associated with 'well-being' (Table 2), and nor was the local unemployment rate.

Working in a small practice and having a primary care team with fewer skills ('team skills') did seem to be associated with well-being (Table 2), although the number of doctors affected in

the case of team skills is quite small. The two are associated (Table 3), and both show the same pattern of association with well-being, i.e. lower well-being in small practices/teams, a flat association in the centre of the distribution, and dramatic increase in well-being in large practices/teams.

Patient centredness was linearly correlated with well-being (Table 2), as was experience of violence in the previous year.

Workload appears to be associated with low well-being in a curious manner (Table 4); as the analysis moves from more 'objective' measures, such as the number of patients seen, to more 'subjective' measures, such as feeling overworked, the association becomes progressively stronger. The strongest factor of all is 'time stress' — as shown in the answer to the question, 'Have you found keeping to time stressful?'

Minitab was used to build a multiple regression model to find the strongest combination of explanatory variables. Starting with the most powerful predictors, a stepwise procedure to find the optimal combination¹⁷ had two conditions:

1. Each explanatory variable must be significant at the $P < 0.02$ level.
2. Each variable must add at least 2% to the total explanatory power.

Three variables were identified that together explained 22% of the variation in well-being, all remaining highly significant ($P < 0.002$). These were time stress, (less stress, higher well-being), patient centredness (more patient centred, higher well-being), and team skills.

Discussion

The response rate of 68% was very gratifying and tends to justify the use of a new 'tailored' measure. The response reflects doctors' concern with low morale and, together with the virtual absence of 'spoiled papers', confirms that doctors found the new measure easy to complete and a valid way of exploring the topic.

Table 2. Well-being score and selected explanatory variables.

	n	Mean well-being score	95% confidence limits	
UPA score				
-4 to 20	50	33.04	30.9-35.2	F = 0.91
20.1-30	57	31.68	29.9-33.5	P = 0.436
30.1-40	84	33.25	31.6-34.9	
40.1-56	86	31.57	29.7-33.4	
Number of doctors				
1-2	86	30.9	29.2-32.7	F = 3.13
3-4	62	32.6	30.6-34.6	P = 0.026
5-6	63	32.3	30.4-34.2	
7-10	52	35.1	33.1-37.1	
No. of team skills				
1-2	29	29.3	26.7-32.0	F = 3.00
3-4	54	32.8	30.4-35.1	P = 0.019
5-6	81	32.1	30.4-33.8	
7-8	77	32.3	30.8-33.9	
9-12	35	35.9	33.1-38.8	
Patient centredness				
1-10	28	27.6	24.8-30.5	F = 5.14
10.1-13.5	68	30.9	28.9-33.0	P < 0.001
13.6-17	119	32.7	31.3-34.0	
17.1-20	47	34.3	32.0-36.6	
20.1-30	15	36.6	32.3-40.9	
Experience of violence				
Nil	97	34.2	32.7-35.8	F = 4.59
Verbal	148	31.2	30.1-32.3	P = 0.01
Assault	24	31.7	27.6-35.8	

There are suggestions of minor response bias in favour of replies from larger practices and from doctors with lower well-being, but neither is sufficiently strong to invalidate the overall findings.

The correspondence between very low scores and comments suggesting extremes of disillusionment supports the validity of the study, as does the association with the Maslach inventory burnout scores. Direct confirmation; for example, by interviewing doctors, was not feasible because of the anonymous design of the survey. The association with the 'personal achievement' dimension of the Maslach inventory is weak, but this dimension may not be reliable among doctors.¹³ The concordance between the findings and those of other work in the field of stress and burnout also suggest that the same cluster of concepts is being measured (e.g. associations with longer working hours, time stress, and violence^{3,5,6,22,23}).

The measure had a reasonable level of internal consistency for an epidemiological survey and was reproducible in the short term.¹⁸ Some of the questions have skewed responses, but even these questions had reasonable item-total correlation coefficients. Moreover, the distribution of the overall score corresponds closely to a 'normal' distribution, so manipulation of these scores before summation (e.g. by transformation) was not thought necessary.^{17,18}

The well-being score was useful as a tool for exploring explanatory variables at the population level. The total of 22% of the variance in well-being explained is similar to other studies.⁷ GPs are surprisingly heterogeneous when studied in this way. At the individual level, this is a low level of prediction, and the variables found would not necessarily work as predictors of the well-being of any one GP.

The measure may or may not be repeatable in a different setting, e.g. outside London; further testing would be required to judge this. Sensitivity to change in the long term would be an extremely useful characteristic, but again further testing would be required to establish this.

The title 'well-being' was chosen for the score to avoid biasing the reader by using a word such as 'morale' or 'burnout', which make assumptions about what the measure is recording and implies an either/or phenomenon. Although doctors with very low well-being scores appeared to be deeply unhappy at work, judging from their comments, their experience is not categorically different from that of their colleagues. The usual emphasis on binary disease-type models (e.g. finding 'sick' or 'bad' doctors) has the drawback of stigmatizing doctors who seek support, and aids denial²⁴ — after all, everyone has bad days, so why are they (or I) making such a fuss?

It is clear that, in this inner-city area with deprivation scores ranging from 0 to +55, doctors' well-being varied considerably but was not associated with deprivation. This is surprising, since deprivation was associated with more small practices, higher time stress, and higher workload (consultation rate), all of which

Table 3. Number of doctors in the practice by number of skills in the primary care team.

Number of doctors	Number of skills in the primary care team					Total
	1-2	3-4	5-6	7-8	9-12	
1-2	20 (71)	29 (58)	24 (30)	7 (9)	3	83 (30)
3-4	6 (21)	16 (32)	27 (34)	16 (21)	5 (13)	70 (25)
5-6	2 (7)	5 (10)	21 (26)	27 (35)	13 (33)	68 (25)
7-10	0	0	8 (10)	27 (35)	18 (46)	53 (20)
Total	28	50	80	77	39	274

Chi square = 111.27; 15 df; $P < 0.001$.

Table 4. Workload and well-being.

	n	Mean well-being score	95% confidence interval mean	
Work				
Full-time	239	31.9	30.9–32.9	t = 2.79
Part-time	42	35.4	33.1–37.7	P = 0.007
Patients per week				
40–100	62	34.5	32.5–36.4	F = 2.42
101–150	98	32.1	30.5–33.8	P = 0.067
151–200	64	31.1	29.3–32.9	
201–250	16	30.4	26.9–34.0	
Paperwork hours per week				
0–5	70	32.4	30.7–34.2	F = 4.03
6–10	105	33.3	31.7–35.0	P = 0.008
11–15	50	32.5	30.6–34.4	
16–30	23	27.2	24.0–30.4	
How would you rate your clinical workload?				
On the light side	4	31.0	6.5–55.6	F = 3.29
Just about right	57	35.3	33.2–37.3	P = 0.021
Rather too much to do	165	31.7	30.6–32.9	
Severely overworked	50	31.5	29.2–33.9	
Have you found keeping to time stressful?				
Not at all	12	37.4	31.7–43.1	F = 9.62
Slightly	64	35.9	34.0–37.8	P < 0.001
Definitely	91	32.7	31.1–34.2	
Quite a lot	53	30.6	28.8–32.4	
Extremely	55	28.5	26.4–30.6	

were associated with well-being. A survey that included doctors outside London might have a different finding, or the explanation could be a degree of self-selection — doctors with a strong sense of vocation choosing to work in inner London.

Workload was associated fairly weakly with well-being, but the strongest association was with the highly subjective 'time stress'. This confirms previous work in which subjective workload, and in particular time stress, had a greater explanatory power than objective workload.^{3,5,22} A possible explanation may lie in Howie's examination of doctor styles.³ If doctors work at different natural paces, it follows that doctors will become 'overloaded' at different points.

Size of practice and primary care team had a non-linear relationship with well-being. The steep rise in well-being with larger teams might be something to do with fundholding, which was not included in the questionnaire. There is also a fall in well-being with very small practices and teams, which could be worth addressing. A qualitative study by Slater²⁵ recommended targeting support at small or poorly functioning teams.

Another group worth targeting for help, although not significant in the multiple regression (perhaps because of small numbers), may be those experiencing (perhaps repeatedly) violence and abuse at the hands of patients.

Conclusion

The well-being measure was user friendly and achieved its aim of gaining a high response rate. Face validity and reliability seem to be satisfactory for an epidemiological measure, but further work would be required to confirm this and to confirm generalizability and sensitivity to change.

Working in a deprived area was not associated with well-being. One explanation could be self-selection of highly motivat-

ed doctors. Previous associations of morale measures, such as stress and burnout, with time stress, primary care team variables, and experience of abuse were confirmed.

Does low well-being matter? This is partly a matter for value judgements about humanity to doctors. However, low well-being also brings problems of recruitment and poor retention, with resultant shortages of doctors, and the link with 'trivial' consultations and patient centredness suggests that quality of care may suffer.^{8,14}

Suggested action includes:

1. Provide help for small teams — they are likely to be under more strain.
2. Accept different caseloads, and do not overload doctors — beware too many efficiency savings!
3. Target support at doctors suffering from repeated patient abuse.

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