SICKNESS ABSENCE AMONG RAILWAY CLERICAL STAFF

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This paper examines in detail the sickness absence experience within one well-defined railway occupation, identified in a previous paper for further study, namely clerks. The clerks consist of three hierarchical grades. The differences between them are described. The measures of sickness absence are identical with those of the previous communication. A gradient of sickness experience between the three grades is demonstrated. This occurs in inverse relation to the amount of responsibility associated with the posts. The gradient is accounted for by a small number of diagnostic categories. The implication of this is discussed. Comparisons are made with a similar population in London Transport and the results discussed. It is concluded that psychological factors might provide some explanation of the striking differences in sickness experience operating within one sub-class of the Registrar General's classification (IIIc) and within a limited salary scale.

In a previous communication (Gordon, Emerson, and Pugh, 1959b) the patterns of sickness absence among Scottish railwaymen were discussed and certain characteristics of occupations (grades) were examined in relation to the amount of sickness absence experienced. This paper examines further the characteristic of "responsibility" and its relation to the sickness patterns of three hierarchical railway grades. The terms used here are the same as those defined in the previous communication.

Clerical Staff

Among the occupations contained in the railway research population (see previous paper) is that of clerical staff, which is represented by three hierarchical grades, namely chief clerk, senior clerk, and clerk. These distinctions were given to us by the Scottish Regional Establishment and Staff Officer and his colleagues and were described to us as follows:—

A chief clerk exercises a considerable measure of responsibility, is sedentary, and has supervisory duties over other clerks.

A senior clerk does more or less routine work but requiring some measure of initiative, is sedentary, and is normally required to supervise small numbers of clerks.

Clerks require little or no initiative, are sedentary, and do routine work in all departments.

The clerical staff form a homogeneous group in

that entry to the higher grades is entirely by promotion from the lower ones. The salaries of railway clerical staff may be noted. They currently range from £540 to £731 per annum depending on the responsibility of the individual post, but not only on supervisory responsibility. Thus a clerk doing specialized and important work may be paid as much as a chief clerk.

Sickness Absence

During the course of the general analysis of the sickness absence data a particular relationship between these grades was discovered. It was found that on all but one of the measures used chief clerks had less sickness absence than senior clerks, who in turn had less than clerks.

In order to make the data on the grades more comparable it was decided to limit the group to clerical staff aged 45 and over, since there are few chief clerks or senior clerks below this age. The data for the clerical staff aged 45+ were age-standardized by the "direct" method (Hill, 1955) and are presented in Table 1. In fact, because of the comparability in age range, age-standardization had very little effect on the actual rates and none at all on the relationship between the grades.

It will be seen that the chief clerks have a smaller number of sickness episodes; these involve a smaller number of people and there are fewer days lost per person during the year. Even when chief clerks

TABLE 1
SICKNESS ABSENCE DATA FOR CLERICAL STAFF

Grade	No. in Group	Episode Rate	Sick Person Rate	Average Duration			Average No. of Episodes per Sick Person
				Per Person (Days Lost in Year)	Per Episode (Days)	Per Sick Person (Days Lost)	
Chief clerk	177	0.52	0.36	7.10	14.67	20.21	1.43
Senior clerk	391	0.58	0.38	10.68	18.28	21.97	1.59
Clerk	692	0.65	0.44	13.14	20.18	29.89	1.49

have a sickness episode, its average duration is shorter. The days lost per sick person are fewer and so are the number of episodes per sick person. All this is so in relation to both the lower grades of clerical staff. The same holds good for senior clerks in relation to clerks, except for a slight departure in the number of episodes per sick person.

Percentage Incidence of Types of Episodes.—In the previous paper it was found that the increase in the amount of sickness for the older age groups is accompanied by a change in the pattern of episode durations and we must now therefore consider whether the larger amount of sickness in clerks involves a similar change of pattern. Table 2 gives the percentage incidence of types of episodes for the three grades.

TABLE 2
PERCENTAGE INCIDENCE OF TYPES OF EPISODE IN CLERICAL STAFF

Length of Episode (days)	Chief Clerks (%)	Senior Clerks (%)	Clerks (%)
Uncertified (1 to 2)	37	30	32
Casual (3 to 6)	20	15	16
Short (7 to 24)	25	34	30
Medium (25 to 72)	12	16	15
Long (73+)	5	5	7
N	87	232	444

N = 100%

The pattern appears to be very much the same for senior clerks and clerks. Compared with both of these there is a tendency for chief clerks to have a somewhat higher percentage of uncertified and casual episodes (57% as compared with 45 and 48) and a correspondingly lower percentage of the remaining types. Thus the differences between chief clerks and the others appear to be due to a lower incidence of episodes of more than one week's duration. This is confirmed by a consideration of

TABLE 3
EPISODE RATES FOR CLERICAL STAFF

Episodes	Chief Clerks	Senior Clerks	Clerks
Uncertified	0.19	0.18	0.20
Casual	0.10	0.09	0.10
Short	0.12	0.20	0.19
Medium	0.06	0.09	0.10
Long	0.02	0.03	0.04

the episode rate for different durations in Table 3.

In general it will be seen from Table 3 that clerks have a higher episode rate for all durations (except short) but particularly so for long episodes.

Age Trends in Sickness Absence.—It is also interesting, when comparing the three clerical grades, to consider the age trends in each. Table 4 and Fig. 1 give the average duration per person by age for the clerical staff. The differences between the grades are shown most strikingly on this measure. At each age, rates correspond in ascending magnitude to the hierarchical order.

Clerks show the normal rise with age; the tendency to level off in the oldest age group may be due to the separation of sick workers from the labour force. (Considering the average duration per person for the whole railway research population given in the previous communication, it will be seen that the shape of the curve for age groups 45 to 64 is very similar to that for clerks.) Chief clerks appear to be less prone to sickness absence in that their curve lies entirely below that of the other grades, but there is a very steep rise in the earlier age groups and a sharp decline in the later ones. The rise may be due to the fact that at these ages, fairly soon after they have been promoted, the chief clerks find their adaptation to the job hardest, and thus produce a higher sickness rate. The fall at the older ages may be due to a proportionately greater withdrawal

TABLE 4
AVERAGE NUMBER OF DAYS PER PERSON LOST IN YEAR

Grade	Age Groups (Years)								Total	
	45 to 49		50 to 54		55 to 59		60 to 64			
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Chief clerk	30	2.73	46	7.70	69	9.80	32	4.00	177	7.00
Senior clerk	53	7.08	138	9.03	150	13.71	50	12.94	391	11.06
Clerk	144	11.11	287	11.49	204	15.22	57	15.74	692	12.87

FIG. 1.—Average duration per person (days lost in the year).

from work due to sickness or death than in the other grades. The same considerations may apply but with less force to the intermediate grade of senior clerk. The numbers are small, and some of the results, *e.g.*, the low rate of chief clerks at ages 45-49, might be due, partially at least, to chance.

It is obvious that in addition to age, the length of time in present grade is relevant to this discussion, but to add this as another variable would so attenuate the numbers in the sub-groups as to make the rates very unreliable.

Diagnosis.—For each sickness episode we have available a diagnosis obtained from the doctor's certificate which a man must present when his absence is of three days or longer. When an absence is of only one or two days' duration we have the man's own "diagnosis" which is accepted as sufficient by the railway authorities. Within the limitations inherent in such data an analysis of the diagnoses was carried out.

All causes of sickness absence were broken down into broad diagnostic categories. The grouping of London Transport Executive (1956) was used in order to make direct comparison with their results, and because it appeared suitable for the limited examination which our information would permit.

The diagnostic categories in which a gradient exists were demonstrated by the use of the ratios clerk: senior clerk and senior clerk: chief clerk, using the measure of average duration per person. The gradient was shown to exist in six categories,

TABLE 5
AVERAGE DURATION OF SICKNESS ABSENCE PER PERSON IN DIFFERENT DIAGNOSTIC GROUPS

Grades	Diagnostic Groups		Total (days)
	*Special (days)	Other (days)	
Chief clerk	2.25	4.75	7.00
Senior clerk	5.42	5.63	11.05
Clerk	7.48	5.39	12.87

**(a)* Functional nervous disorders, *(b)* bronchitis, *(c)* diseases of circulatory system, *(d)* diseases of stomach and duodenum, *(e)* accidents, *(f)* diseases of bones and organs of movement.

namely: *(a)* functional nervous disorders, *(b)* bronchitis, *(c)* diseases of the circulatory system, *(d)* diseases of the stomach and duodenum, *(e)* accidents, and *(f)* diseases of bones and organs of movement. It is shown in Table 5 that if these six categories are ignored, no gradient exists, and therefore these categories are responsible for the total gradient. We found no evidence of a gradient going in the opposite direction.

Definitions of Diagnoses.—It should be noted that "functional nervous disorders" include both psychotic and neurotic mental illness, and that in the category "bronchitis" no distinction is made between the acute and chronic forms.

"Diseases of the circulatory system" includes all heart conditions except congenital heart disease, all hypertensive heart disease, diseases of arteries and veins, as well as ill-defined symptoms referable to this system.

"Diseases of the stomach and duodenum" includes peptic ulcer and other diseases of the stomach and duodenum, but not carcinoma.

"Diseases of bones and organs of movement" includes arthritis and rheumatism, osteomyelitis and other diseases of bones and joints, but not rheumatic fever.

The category "accidents" presents a different problem as we did not make the distinction between accidents on and off duty that was made by London Transport. For purposes of comparison we have grouped their two categories together.

Comparisons with London Transport Clerical and Technical Staff (Men)

Comparisons with an apparently similar population in London Transport are given in Tables 6 and 7. London Transport regards all episodes of six months or more as being of six months only, and ignores all episodes of three days or less. For comparison our figures have been corrected on this basis.

We have also made corrections in the categories "common cold" and "influenza" to compensate for some obvious anomalies in our figures. In the first

TABLE 6
COMPARISON OF SICKNESS RATES AND DURATION FOR CLERICAL STAFF OF THE RAILWAY RESEARCH
POPULATION AND LONDON TRANSPORT

Age Group (years)	Episode Rate		Average Duration			
			Per Episode		Per Person	
	Railway Research Population (days)	London Transport (days)	Railway Research Population (days)	London Transport (days)	Railway Research Population (days)	London Transport (days)
45 to 49	0.34	0.39	24.65	20.19	8.36	7.79
50 to 54	0.37	0.41	25.17	22.78	9.23	9.36
55 to 59	0.42	0.44	30.51	29.21	12.84	12.71
60 to 64	0.37	0.48	26.81	30.81	10.03	14.76

TABLE 7
AVERAGE DURATION OF SICKNESS PER PERSON FOR CLERICAL STAFF OF THE RAILWAY RESEARCH
POPULATION AND LONDON TRANSPORT

Age Groups (years)	Special Diagnostic Groups		Other Groups		Total	
	Railway Research Population (days)	London Transport (days)	Railway Research Population (days)	London Transport (days)	Railway Research Population (days)	London Transport (days)
45 to 49	2.10	3.55	6.26	4.24	8.36	7.79
50 to 54	5.26	3.86	3.96	5.50	9.22	9.36
55 to 59	8.32	6.92	4.52	5.79	12.84	12.71
60 to 64	6.47	8.01	3.56	6.75	10.03	14.76

all episodes of 28 days or over are regarded as of 28 days only, and in the second, all episodes of 42 days or over are regarded as of 42 days only.

From Table 6 it can be seen that the episode rate is lower, and the average duration per episode is higher in the railway research population than in London Transport. These figures bear out the different patterns of sickness absence already noted in the previous paper, though the clerks resemble each other more closely than do the groups as a whole. On the measure of average duration per person (Table 7), this resemblance is again marked.

Comparison of the special and other diagnostic groups by age with London Transport is given in Table 7. It can be seen that the average duration per person rises with age in the special groups both in London Transport and in the railway research population, but there is no rise in the other groups in the railway research population, and only a slight rise in London Transport.

Sickness Absence Effects on Promotion

One of the major questions immediately posed by the above results is the following: Is it the absence of malfunction with attendant lack of sickness which leads to promotion, or does the failure to achieve promotion induce malfunction? It is clear that a consideration of the data derived from recording job changes in the railway research population would be relevant. Unfortunately, the available material relating to changing of job is only for the period of a year and covers a comparatively small

number of changes with consequent relative unreliability of the measures. With this caution in mind it is presented here as a first estimate.

Of the 92 clerks who were promoted during the year, 28 had some form of sickness absence. This gives a sick person rate of 0.30 compared with 0.44 for all clerks. Similarly seven of the 21 senior clerks promoted had a sickness absence, giving a sick person rate of 0.33 compared with 0.38 for all senior clerks. Thus, as far as it goes, the available information supports the hypothesis that there is some medical factor involved in selection, although its precise degree has yet to be determined.

Conclusions

In this paper we have described the sickness absence experience of a specific occupational group (railway clerical staff) and have demonstrated that a gradient of sickness exists among its hierarchical grades. This gradient is inversely related to the amount of supervisory responsibility carried by the posts. Supervisory staffs are healthier than their subordinates of the same age as shown by such measures as the percentage of men who have a sickness absence during the year, and the number of days lost per person through sickness. Also the pattern of episode durations is different; chief clerks have a significantly higher percentage of shorter sickness absences of less than one week, and a correspondingly lower percentage of longer episodes.

We have also shown that the gradient is provided

by a limited number of diagnostic categories which include functional nervous disorders, and diseases of the stomach and duodenum. These might suggest a psychosomatic element, although it is difficult to see how the remaining categories showing the gradient can be reconciled with this. It is clear that there are other factors at work.

From the point of view of social medicine the gradient demonstrated here is of particular interest since we are not measuring social class differences. The gradient operates within a very small salary range, among persons who all belong to class IIIc in the Registrar General's classification. We are tapping intra-class differences where such psychological factors as morale, attitude to work, and "absence threshold" become central. A closer examination of industrial groups which present a homogeneity otherwise difficult to obtain, might throw some light on disputed questions in the aetiology of diseases and especially on the common origin of seemingly separate diseases. We hope that other such studies as this will be forthcoming.

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