

V. Material and methods

OPERATIONALIZATION OF CONCEPTS

The variables describing the prisons are regarded as characteristics of the objective work environment (size, location, overcrowding and security). The objective work conditions of the workers are characterized also by their tasks, defined by the occupation, and their position in the organization, as well as the time spent in the institution, ie, length of service.

In this study the following characteristics of the perceived environment were supposed to be environmental counterparts of stress and possible modifiers of health:

contents of work (variability, challenge, etc), mental and physical work load, role in the organization (goal conflict, motivation conflict, role ambiguity and conflict), organizational climate (participation in decision making, availability of information, feedback, etc), social relations in the workplace (relations with co-workers, employers and prisoners), and characteristics of the physical work environment.

The stress and health indicators were mainly anamnestic and present illnesses and perceived psychological and physical symptoms. The difference between health indicators and stress reactions cannot be

made strictly because of the gradual development of illnesses. The general subjective health status, perceived continuous fatigue, and physical fitness in comparison to that of age mates were regarded as additional indicators of health. In the present study the positive indicators of health covered perceived resources, competence, and social activeness, and they were treated as end-state indicators.

Certain dimensions of the conscious personality, ie, self concept, were considered in this study as personality characteristics moderating the stress process in any of its phases. Attitudes (towards care of prisoners) and demographic variables (age, sex, education, etc) were considered to be additional intervening factors. The buffering function of the interpersonal form of support was also studied.

STUDY POPULATION AND SAMPLE

The study population comprised all employees in all prisons of Finland in 1975. The number of employees was 2,221 at that time. As one aim of the health examination was to determine possible risk groups, the study sample was chosen partly by this criterion. It was not known beforehand

which were the particular risk groups. The length of work experience in prisons and the workers' ages were, however, considered risk factors of health. Because age and work experience are supposedly strongly dependent on each other, age was finally chosen as the criterion of selection of the study sample. It was also easier to get information on age, and so to add to the reliability of the data.

As age was considered a risk factor of health, the older age groups were included in the study sample. Thus all employees born in 1930 and earlier were included. So that a comparison could be made between various age groups, the employees born in 1935 and 1940 were also included in the study sample.

SUBJECTS

Participation in the study

Of those 787 employees who fulfilled the criteria of selection to the sample, 736 participated in the laboratory examination (93.5%). Of these 736, 694 returned the work and stress questionnaire, two of which were discarded as incomplete. Thus the number of questionnaires was 692. Two additional questionnaires were later discarded because of missing information on occupation, which was an important variable in several analyses.

A total of 88% of all the employees accepted to the study answered the questionnaire, and 94% of those who participated in the laboratory examination. The percentage of participation can thus be considered good, and the data to represent all the prison employees accepted to the study (certain age groups).

Because of the criteria of forming the study sample the number of participants varied from prison to prison (table 3).

Occupation

The participants in the study represent all prison occupations (table 4). In the analysis of the data occupations 1—3, 7—8, 9—12 and 13—15 in table 4 were combined because the number of participants in these groups was relatively small. The oc-

Table 3. Size of study sample and number and percentage of participants by prison.

Prison	Size of sample (N)	Parti- cipants	
		N	%
Helsinki Central Prison	71	66	93
Turku Central Prison	107	81	76
Konnunsuo Central Prison	59	50	85
Sukeva Central Prison	63	59	79
Riihimäki Central Prison	67	60	90
Hämeenlinnan Central and Provincial Prison	82	76	93
Kerava Youth Prison	42	39	93
Helsinki Provincial Prison	41	35	85
Turku Provincial Prison	30	22	73
Mikkeli Provincial Prison	20	15	75
Kuopio Provincial Prison	22	19	86
Vaasa Provincial Prison	28	27	96
Oulu Provincial Prison	20	19	95
Köyliö Subsidiary Prison	26	26	100
Huittinen Subsidiary Prison	26	21	81
Pelso Subsidiary Prison	38	34	92
Naarajärvi Subsidiary Prison	38	37	97
Mental Hospital for Prisoners	7	6	86
Total	787	692	88

occupational groups have been called by the following names in this report:

- 1—3 = administrators
- 4 = principal guards
- 5 = senior guards
- 6 = junior guards
- 7—8 = clerical staff
- 9—12 = foremen
- 13—15 = educational and nursing staff

The largest group was the guarding staff (principal guards, senior guards and junior guards), who represented 57 % of the respondents. The foremen represented 18 %, the administrators (directors, financial managers, chief officers) 12 %, educational and nursing staff 7 %, and office personnel 6 % of the total (table 5).

The relative proportions of various occupational groups corresponded roughly to the occupational distribution of the total prison personnel. Best represented in this study were the administrators, the principal guards, the senior guards, and the foremen. The office personnel and the nursing and educational staff were represented by a somewhat smaller number than the relative proportion of these occupations from the total prison staff would have indicated. Clearly underrepresented were the junior guards. According to prison statistics 52 % of the guards are seniors and about 48 % juniors. As their occupational name indicates, the junior guards are relatively young. Their proportion remained rather small because the study covered mainly older age groups.

As the study sample was formed on the basis of age, the relative proportions of the occupational groups varied somewhat between the prisons. Especially for the

small institutions the sampling error may have had some effect (table 6).

Age

The mean age of the participants was 50 a. The mean ages of the various occupational groups did not vary much due to the sampling technique. Only that of the junior guards was about 8 a lower than the age of the other groups (table 7).

All of the guards and the principal guards were born after 1914 (retirement

Table 4. Number and percentage distribution of participants by occupation.

Occupation	N	%
1 Governor, assistant governor, financial manager	33	5
2 Chief of labor colony, assistant chief of labor colony	38	6
3 Chief officer, assistant chief officer	13	2
4 Principal guard	59	9
5 Senior guard	289	42
6 Junior guard	42	6
7 Bookkeeper, clerk, assistant clerk	29	4
8 Office worker, telephone operator	14	2
9 Shop manager, machine shop manager, grounds manager, supervising printing foreman, supervising foreman	13	2
10 Housekeeping manager, foreman	19	2
11 Supervisor, foreman	54	8
12 Cook, machine foreman, operator, printing foreman, assembler, warehouse keeper	36	5
13 Minister, teacher, social worker, psychologist	29	4
14 Physician, registered nurse, mental health nurse, practical nurse, children's nurse	20	3
15 Other	2	0
Total	690	101

Table 5. Number and percentage distribution of participants by occupational group.

Occupational group	Participants		Total personnel of prison administration on 31 December 1975	
	N	%	N	%
Administrators	84	12	184	8
Principal guards	59	9	130	6
Senior guards	289	42	1,248	56
Junior guards	42	6		
Clerical staff	43	6		
Foremen	122	18	165	7
Educational and nursing staff	51	7	298	13
			196	9
Total	690	100	2,221	101

Table 6. Distribution of the participants in the different occupational groups by prison.

Prison	N	Occupational group							Total (%)
		Admin-istrators (%)	Principal guards (%)	Senior guards (%)	Junior guards (%)	Clerical staff (%)	Fore-men (%)	Educa-tional and nursing staff (%)	
Helsinki Central Prison	66	8	6	36	—	9	32	9	100
Turku Central Prison	81	1	6	64	1	4	20	4	100
Konnunsuo Central Prison	50	4	6	50	10	6	20	4	100
Sukeva Central Prison	59	5	10	39	7	5	25	8	99
Riihimäki Central Prison	60	33	8	18	7	7	10	17	100
Hämeenlinna Central and Provincial Prison	76	11	9	37	7	4	20	13	101
Kerava Youth Prison	39	13	8	33	5	3	23	15	100
Helsinki Provincial Prison	35	54	9	3	6	17	6	6	101
Turku Provincial Prison	22	18	14	32	—	5	32	—	101
Mikkeli Provincial Prison	15	7	7	53	7	7	20	—	101
Kuopio Provincial Prison	19	16	5	37	21	11	11	—	101
Vaasa Provincial Prison	27	11	11	44	15	15	4	—	100
Oulu Provincial Prison	19	16	16	42	16	5	5	—	100
Köyliö Subsidiary Prison	26	8	12	46	12	4	19	—	101
Huittinen Subsidiary Prison	21	10	14	67	5	—	5	—	101
Pelso Subsidiary Prison	33	3	9	64	—	3	18	3	100
Naarajärvi Subsidiary Prison	37	5	8	62	8	8	5	3	99
Mental Hospital for Prisoners	5	—	—	—	—	—	—	100	100

Table 7. Age of participants by occupational group.

Occupational group	N	Age (a)	
		Mean	SD
Administrators	84	49	7.45
Principal guards	59	50	5.48
Senior guards	289	50	5.85
Junior guards	42	42	6.17
Clerical staff	43	51	8.03
Foremen	122	50	6.61
Educational and nursing staff	51	51	8.83
Total	690	50	6.75

at the age of 57 a); the other occupational groups included employees born also earlier (age of retirement 63 a). Those born in 1935 and 1940 comprised 71 % of the junior guards, while the proportion of these age groups was only 19 % of the total sample (fig 8).

Sex

Of the participants, 635 (86 %) were men and 101 (14 %) women. The proportion of women was considerable only in two occupational groups: clerical staff (84 %) and educational and nursing staff (35 %) (table 8).

Education

Most of the participants (77 %) had received the obligatory basic education in Finland, ie, 9 a at the time the participants in this study had their basic schooling. A majority (85 %) of all the participants had received vocational training for work in the care of prisoners. The most common vocational education was a junior guard's course, which takes four months. After passing this course, the employees are eligible for the posts of junior and senior guards. One-third of the participants had attended higher vocational courses related to service in prison. About 50 % had no vocational training for prison service at all. This group included such occupational groups as the clerical staff and the educational and nursing staff.

Earlier work experience

In addition to prison service most of the participants (80 %) had work experience also in some other occupations. Almost half of them had worked in agriculture, 14 % had industrial work experience, and 24 % had worked in protection and educational jobs. About half of those who had some work experience before entering work involving the care of prisoners had been employed in some other occupation.

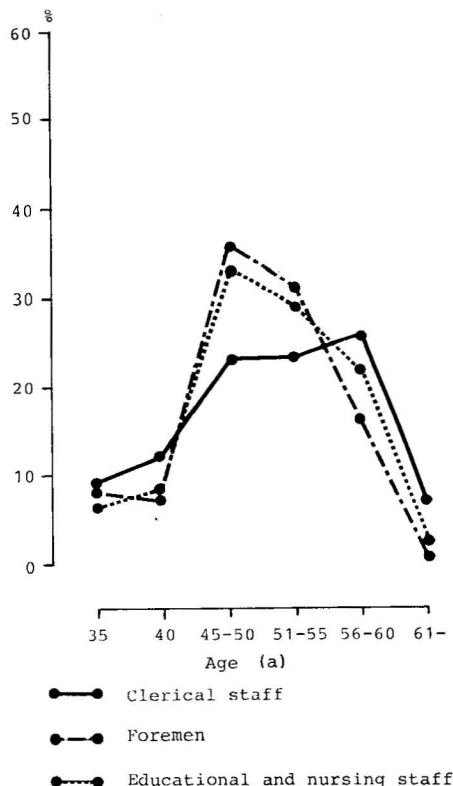
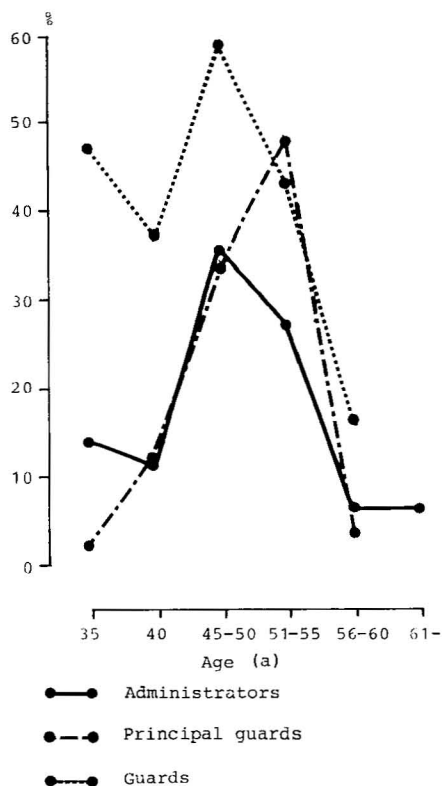


Fig 8. Percentage distribution of the participants by age and occupation.

Work experience in this study group is presented in fig 9 by occupation. About one-third of the total study sample had a work experience shorter than 5 a, and 6 % had worked in the field for over 20 a. The mean work experience in certain occupations differed considerably from that of all occupations combined.

Work conditions

Tasks and work placement of guards and work foremen

Due to the various activities in total institutions like prisons, the tasks of those responsible for the maintenance of order and labor activity differ considerably from person to person and from time to time. One-third of the guards had worked during the last 12 months mostly inside the prison departments. Guarding in the workshops had been the main task

Table 8. Percentage of men and women by occupational group.

Occupational group	N	Men (%)	Women (%)	Total (%)
Administrators	84	98	2	100
Principal guards	59	93	7	100
Senior guards	289	96	5	100
Junior guards	42	83	17	100
Clerical staff	43	16	84	100
Foremen	122	91	9	100
Educational and nursing staff	51	65	35	100
Total		86	14	100

of 25 % of the participants. The next tasks, in order, were guarding of work groups outside, in construction work, or in agricultural work. The rest had worked in various tasks.

Among the foremen and those guards who supervise the work groups, most had worked mainly in the metal industry, carpentry, construction, and maintenance.

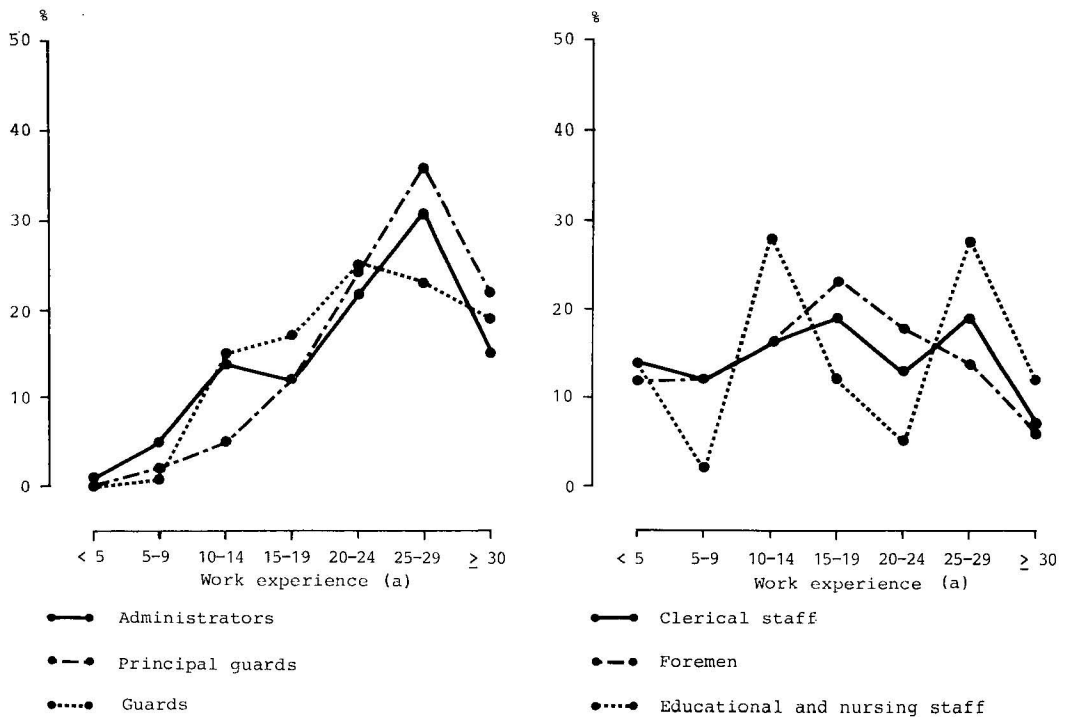


Fig 9. Percentage distribution of the participants by length of work experience.

A comparison of the present tasks of these occupational groups to the earlier tasks indicates that the relative proportion of agricultural work has diminished, while the proportion of industrial work has increased.

Relative number of staff to prisoners

The guards and the foremen are often in a situation where they have to supervise and instruct several prisoners at the same time. In regard to the mental load of work the number of prisoners in relation to the number of personnel is of importance. One-third of the guards and foremen worked mainly alone, another third worked with one colleague, and about the same number of personnel worked in surroundings where there were at least three employees at the same time.

Every tenth of the respondents had no prisoners at all to supervise. About half had 1—20, and every fifth had more than 40 prisoners to supervise.

The variation of the number of personnel and prisoners at different times (eg, different times of the day) seem-

ingly caused many respondents difficulties in answering the question concerning the relative proportion between the personnel and the prisoners. Thus it was not possible to obtain a completely reliable picture of the average work conditions.

The responsibility of supervising large groups of prisoners and, on the other hand, working alone or only with one colleague seemed, however, to be quite common. This situation reflects the currently high overpopulation of the prisons.

Security of departments

The type of prison department is one of the possible mental load factors of prison work. In maximum-security departments the rules are often strict, and the prisoners spend a large part of the day in their cells. In the minimum-security departments the conditions are more liberal and the general atmosphere is thus lighter.

About half of all the respondents worked in a maximum-security department. The other half worked in a minimum- or medium-security department or in different departments.

Workhours and overtime

More than half of prison employees work in shifts. Also nightwork is obligatory in certain occupational groups because guarding cannot be stopped, even during the nights. The average number of night shifts during the last month was five (range 0—18) and the number of evening shifts was four (range 0—15).

About one-fifth of the respondents had done overtime during the last 12 months. The average number of overtime hours was nine per month ($SD \pm 10.8$). These data are not, however, completely reliable. For instance some of the respondents had included the overtime they had done outside the prison in the number of hours of overtime reported.

Residence, family and travel to work

Almost one-third of the respondents lived on the prison grounds. About two-thirds had lived on the prison grounds at some time during their service.

The daily traveling from home to work and back took less than an hour for most of the prison employees (80 %). Only 3 % of all the respondents used more than 2 h for daily traveling. The time used for traveling cannot thus be considered as any major stress factor in the present study sample.

Because the sample of the study was formed mainly by the older age groups, the number of young children in the families was relatively low. Only less than half of the participants had children under 16 a of age still at home.

In light of the skewed age distribution, it can be assumed that the standard of living of the respondents was also probably fairly good. They had had, in general, a rather long professional career and therefore had been in a situation to acquire a satisfactory residence. On the other hand, in many families the children had already moved out on their own. Only 11 % of all the respondents lived in small apartments with one or two bedrooms, and one-third of the participants lived in big residences with more than three bedrooms. The number of rooms averaged 1.16 per person.