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Sources of Stress Amongst Mental Information Workers: Employees of Regional Radio Stations

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Sources of Stress Amongst Mental Information Workers: Employees of Regional Radio Stations

René Schalk & Titia Meijer WORC, Tilburg University

Introduction

Although the title of this workshop is 'Stress in new occupations', the occupations studied in the present research are not new at all. We studied employees working in regional radio stations, and radio is a medium which exists already for a considerable amount of time. Therefore, we will first explore the question why the work in radio stations is important for this workshop.

What is 'new' in 'new occupations' in our view, is that there is an increased 'mentalization' of work, in the sense that physical components of work activity are of minor importance and that the task activities mainly consist of mental operations (cf. Zuboff, 1988). Related to this the work objects and tools which are used are for a great part not tangible, material objects, but mainly information objects and information systems. This kind of work can be characterised as 'mental information work': mental work, done on information objects (Roe & Meijer, 1990).

In the work of radio reporters and journalists working in regional radio stations these characteristics are present: the employees are mental information workers. Therefore, analysis of sources of stress amongst those employees is relevant for this workshop.

1

Context of the research

In 1992 the union of journalists in the Netherlands asked us to make an inventarisation of problems employees working in regional radio stations encounter in their work situation. According to the union the most important problems were related to the management in the 13 regional radio stations, and to the time pressure in their work. In the Netherlands there are 13 regional radio stations. All organizations are small (less then 50 employees), rather young (originated 10 to 20 years ago) and show a growing number of activities (more broadcast time, plans for regional television, more commercial activities).

Literature on stress in the mass media

There is not much literature on stress among journalists and reporters. The PsychLit database gives for the literature after 1987 only a few studies on this subject. These studies address special problems, such as careers (Kassner, 1990), the personality of journalists (sensation seekers: Umapathy & Suvarna, 1988) and the working climate of journalists working in small groups (Ekvall & Tangeberg-Andersson, 1986). There is only one general study on stress and health factors of employees working in the sector of the mass-media in Germany (Fischer, 1985).

Our Research Design of the study

In studying the work of employees in regional radio stations we departed from two premises:

- we considered the work of the employees as a typical example of mental information work; therefore we used methods especially developed for assessing the characteristics of this kind of work (Meijer & Roe, in press);
- because there is little known about the specific "stressors" in these occupations we also used an exploratory method.

2

We first conducted a pilot-study which involved observation of the activities on a 'normal' work day in five radio stations. We attended meetings, observed activities, talked with supervisors and journalists, and accompanied reporters when they were doing their work (Schalk, Meijer, van Aarle & de Hoogd, 1993a). Because time pressure was according to the union of journalists an important stress-factor, we also applied a task analysis method especially developed to analyze mental information work (Meijer & Roe, in press) with four employees and their supervisors.

Two questionnaires were developed on the basis of the pilot-study (Schalk, Meijer, van Aarle & de Hoogd, 1993a). One questionnaire was send to tenured employees (not free lance workers) in the 13 radio stations. The aim of this questionnaire was to assess opinions about work and health of these employees. Another questionnaire was send to supervisors. The results we present in this paper are mainly based on the data of the questionnaire among employees (Schalk, Meijer, van Aarle & de Hoogd, 1993b).

In this paper we use a selection of the data and focus on two specific questions:

- 1. which objective characteristics of work and subjective stressors and opinions are related to health complaints?
- are there differences in well-being and health which are related to the content of the work? (this question will be addressed in a subsample of employees: journalists and reporters dealing with news).

Sample

270 questionnaires were send to people who according to the union of journalists were tenured employees in one of the 13 regional radio stations. Of the 133 returned questionnaires 121 (44,8 %) could be used. The number of questionnaires returned per radio station varied between 29 and 58%. We will not discuss the differences between the different radio stations here.

The respondents consists of 76 men and 45 women. 69 % have a professional or university degree. The average age of the employees is 32.3 years.

Research model

The model we used as a guideline in our exploratory research is in figure 1.

- figure 1 -

Questionnaire

Our questionnaire consisted of questions in these three fields:

- objective characteristics of work, such as at which radio station employees were employed, which department, their job title, the amount working hours and overtime work, number of times they can be called up, number of tasks performed, etc.
- subjective stressors and opinions: about management, conflicts, organizational culture, work content, time pressure, etc.
- well-being and health: Warr's (1990) measures for well-being and mental health, somatic health complaints.

Question 1: which factors are related to health complaints?

With regard to the question which factors are related to health complaints we used an exploratory method. We used the data of the entire group of employees. Because it would be impossible to relate all variables measured in the questionnaire to the number of health complaints, we had to reduce the number of variables. We made a selection from the data in the questionnaire, and used the following selection of variables.

- **personal characteristics**: age, gender, education, total work experience in journalism, tenure with the organization.
- task characteristics: number of separate tasks belonging to the job, amount

of overtime work per week, number of evening services per month, number of evenings per week with possibility being called up, number of weekend services per month, number of weekends per month with possibility being called up.

- **subjective stressors and opinions**: perceived influence of the employees on company operations, perceived amount of conflicts between top-management and employees, perceived influence of the works council, satisfaction with the content of meetings, job involvement, satisfaction with management, organizational culture, perceived quantitative workload, perceived time pressure.
- Well-being and health: We used a translated version of Warr's (1990) measures for well-being and mental health. Principal component factoranalysis on the data of 117 employees revealed three factors in the well-being items (which is different from the model proposed by Warr), and also three factors in the mental health items (which concurs with the factor structure of Warr).

We used the following scales: negative feelings, positive feelings, feelings of tension, carry-over (the extent to which job worries carry over into non-working life), aspiration (a concept related to psychological growth, or self-actualization) and competence (a construct similar to self-efficacy). We also used a validated Dutch questionnaire to assess the number of somatic health complaints (VOEG, Dirken, 1969; Visser, 1983)

Table 1 gives the means and standard deviations of the variables used, and information about the range and values.

- table 1 -

Method

To find an answer to the question which objective characteristics of the person and of their work, subjective stressors and opinions, and well-being and mental health are related to the number of health complaints we did a stepwise multiple regression analysis with all variables mentioned above on the number of health complaints.

We also did a stepwise multiple regression analysis with only the objective characteristics and subjective factors (well-being and mental health were excluded) on the number of health complaints.

In addition also stepwise multiple regression analyses were performed with objective characteristics and subjective factors as independent variables and carry-over and time pressure as dependent variables.

Results

The results of the stepwise multiple regression analyses with all variables as independent variables and the number of health complaints as a dependent variable are in table 2.

- table 2 -

The number of health complaints is best predicted from carry-over (higher carryover is related to more health complaints; explained variance = .44). Gender is the second variable which is taken into consideration in the stepwise multiple regression (females have more health complaints). Less experienced time pressure, more work in overtime, younger age, and higher perceived influence of the employees are also related to the number of health complaints. The total amount of explained variance is high (adjusted R Square = .64). The direction of the relation between health complaints and a number of variables is contrary to our expectations. Low feelings of time pressure, being younger, and a higher perceived influence are related to having more health complaints. It may be that this result is caused by statistical artifacts, due to the strong relation between carry-over and the number of health complaints, or to the relationships between the independent variables.

Therefore we did a stepwise multiple regression analysis in which only the objective characteristics and subjective factors were used as independent variables, and the number of health complaints as a dependent variable. The results are in table three.

- table 3 -

Only three variables are in the equation and the relations are as could be expected. Female employees, with low job involvement and many hours of overtime work have more health complaints. The amount of explained variance is rather low, however (adjusted R Square = .13).

These results are not very satisfactory. We did find a strong relation between a mental health factor (carry-over) and health complaints, and also between experienced time pressure and health complaints. The direct relation between health complaints on the one hand and objective characteristics and subjective factors on the other hand, however, is low.

To get more insight into the factors determining mental health and time pressure we also did stepwise multiple regression analyses with objective factors and subjective stressors and opinions as independent variables and carry-over and experienced time pressure is dependent variables. The results of these analyses are in tables 4 and 5. The amount of explained variance is .19 and .25, which is rather low. Low job involvement, high time pressure, low number of tasks and high quantitative workload are related to high carry-over; many evenings with the possibility being called up

and many tasks are related to high experienced time pressure.

Discussion

The results of the analyses on stress-factors related to health in the entire group of employees are disappointing. The relationships between objective characteristics and subjective factors on the one hand and health and time pressure on the other hand are rather low. We only did find a strong relation between mental health and the number of somatic health complaints.

Somewhat puzzling are some seemingly contradictory results: having few tasks is related to a high carry-over, but also to less experienced time pressure. Also younger employees have more health complaints, which differs from our expectations.

On the basis of the results of our pilot-study and the findings from the task analysis we hypothesized that these puzzling findings might be explained by the kind of tasks done by the employees. For example we had the impression that in the newsreporter jobs, the average age was lower, the number of tasks less, and the number of complaints higher than in other jobs. Therefore we decided to elaborate this point further, and to look more closely at a subsample of employees: news editors and reporters. This group is a more homogeneous group, and in this way we could also use the results of our task analyses, which were done on these jobs. This brings us to question 2.

Question 2: is work-content related to health?

With regard to question two we repeated our analyses on a subsample of the total population of employees. We only used the data of reporters and editors dealing with news items (N = 68). In our questionnaire we asked the journalists to give their job title and the name of the department in which they were working. On the basis of this information we selected journalists working in the department dealing with actual news, and with a job title of reporter, editor, or a combined job of reporting

and editing.

The results of our pilot-study indicated that the job title is not always a good indicator for the tasks actually performed. Therefore we applied a cluster analysis on the tasks which (according to our task analysis) belong to the job of a journalist to see if there were clusters of journalists performing the same tasks. We also did include the number of tasks as a variable in our cluster analysis.

The cluster analysis revealed 5 clusters. In three of the clusters 20 or more persons were located (cluster 1: N=21, cluster 2: N=20, cluster 3: N=21; clusters 3 and 5 included 3 persons each, who were excluded from further analyses). We used the data of the 62 employees belonging to clusters 1, 2 and 4 for further analysis. The results of the classification in the cluster analysis are in table 6.

- table 6 -

The results of the cluster analysis are clear. The employees in cluster two are the **reporters**: their main activities are interviewing and making background reports. Employees in cluster three are **editors**, with mainly coordinating and administrative tasks. Employees in cluster one can be considered as having the combined job of **editor and reporter**. They have as well coordinating and administrative tasks, as tasks concerning interviewing and making background reports, and all tasks are less prominent than in the separate job of editor and reporter.

To see if our impression that the job title not always is a good indicator for the actual tasks performed we compared the job titles of the employees with the classification in clusters. Table 7 gives the results.

- table 7 -

Employees with the job title 'reporter' mainly belong to cluster 2, as would be expected. The job titles of 'editor' and 'editor/reporter' are less clear. In our classification based on the results of the cluster analysis some 'reporter/editors' and 'editors' are "real" editors, and others have a combination of editing and reporting. This means that between the different regional radio stations there are differences in the way tasks are combined and in the way job titles are allocated to certain clusters of tasks. We consider the results of our classification as a valid classification with respect to the content of jobs.

Now we come to the question whether there is a relation between the content of the job (i.c. belonging to a certain cluster) and health. First we compared the personal and work characteristics of journalists belonging to the 3 clusters. The results are in table 8.

- table 8 -

In an analysis of variance there are significant differences between clusters on amount of work in overtime (higher among reporters), evening services (higher in the reporters / editors), and evenings with the possibility being called up (higher among reporters); The average number of tasks is highest among the editors and lowest among the reporters.

The results for the comparison of health and well-being indicators are in table 9.

- table 9 -

There are no significant differences in health and well-being indicators between clusters. However, on almost every measure reporters have a higher level of

complaints.

Also we did in this subsample of employees the same stepwise multiple regression analyses as for the whole population (on health complaints, carry-over and time pressure). Because in the stepwise multiple regression analysis on health complaints only one variable (age) came up as a significant predictor, another stepwise multiple regression analysis was done excluding age. The results of the analyses are in tables 10 to 14.

- table 10 to 14 -

The number of health complaints is best predicted from carry-over (higher carryover is related to more health complaints; explained variance = .34). Younger employees have more health complaints, and a higher perceived influence of the employees, lower influence of the works council, and being female are also related with the number of health complaints. The total amount of explained variance is high (adjusted R Square = .62).

These results resemble the results of the multiple regression for the total population. Only the variable 'experience of time pressure' is replaced by 'perceived influence of the works council'.

The stepwise regression of all objective characteristics and subjective stressors and opinions on health complaints only revealed a significant relation with age (younger employees have more health complaints; adjusted R Square = .17). When age was excluded the number of evening services (high), job involvement (low), and the number of working hours (high) are significant predictors of the number of health complaints.

The variance in carry-over is significantly explained by time pressure (high; adjusted R square = .13), and the experience of time pressure is significantly explained by the amount of conflicts (high; adjusted R square = .18).

Discussion

The results of the analyses on stress-factors related to health in the subsample employees are also disappointing. The relationships between objective characteristics and subjective factors on the one hand and health and time pressure on the other hand are low. Again we only did find a strong relation between mental health (carryover) and the number of somatic health complaints.

The results are somewhat puzzling because they seem to be contrary to our expectations. In explaining these results we must realize that the employees we studied are a special group. Journalists are looking for tension. Tension is considered as a positive feeling. Furthermore, it is difficult to compare jobs, because there is a relationship between the kind of job and age and other variables, which are related to health.

It looks as if each cluster of tasks in the subsample of employees has its own advantages and disadvantages. This may be illustrated by looking at the causes of boredom and stress as indicated by the employees. In reporters time pressure (90 %) is an important cause of stress, and waiting times and routine procedures (56 % and 50 %) are important causes of boredom. In the editor jobs time pressure and interruptions are most important causes of stress (74 and 63 %), and routine procedures (65 %) is an important cause of boredom. In the combined job of editor/reporter time pressure (90 %) and waiting times (75 %) are important causes of stress and boredom.

General conclusions on sources of stress are not possible without looking at the causes of boredom. Furthermore there are indications, that there may be an optimum for certain job content variables, f.e. the number of tasks, the level of time pressure, etc. Having to much or to little tasks may both have harmful effects on the number of health complaints.

Further research will be done to evaluate the job content of the three jobs as assessed in the task analyses on criteria for well-being and health.

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References

Dirken, J.M. (1969). Arbeid en stress. Groningen: Wolters Noordhof.

Ekvall, G. & Tangeberg-Andersson, Y. (1986). Working climate and creativity: A study of an innovative newspaper office.

Journal of Creative Behaviour, 20(3), 215-225.

Fischer, H.D. (1985). State of health and stress factors in occupation: The mass media profession. <u>Social Science and Medicine</u>, 21(12), 1367-1371.

Kassner, M.W. (1990). Attributions about subjectively defined career success in different occupations. Journal of Business and Psychology, 5(1), 37-46.

Meijer, T.M. & Roe, R.A. (in press). <u>The analysis and design of mental informati-</u> on work: a method based on the action facilitation approach. Tilburg: sectie arbeidsen organisatiepsychologie, 26 pp.

Roe, R.A. & Meijer, T.M. (1990). Action facilitation and mental information work. Towards an approach to within-job design. In: P. Richter & W. Hacker (Eds.). <u>Mental work and automatization</u>. Dresden: TU Dresden, 55-60.

Schalk, R., Meijer, T., van Aarle, M. & de Hoogd, B. (1993a). <u>Tussenrapportage</u>. Tilburg, intern rapport sectie arbeids- en organisatiepsychologie KU Brabant.

Schalk, R., Meijer, T., van Aarle, M. & de Hoogd, B. (1993b). <u>Probleeminventari-</u> satie van het werk van journalisten bij de regionale omroepen. Tilburg, intern rapport sectie arbeids- en organisatiepsychologie KU Brabant.

Umapathy, A. & Suvarna, B.J. (1988). A comparative study of sensation seeking among working journalists and non-journalists. <u>Indian Journal of Applied Psychology</u>, 25(1), 7-12.

Visser, A. Ph. (1983). De betekenis van de Voeg; enkele gegevens over de begripsvaliditeit. <u>Gezondheid en Samenleving</u>, 4, 3, 177-188.

Zuboff (1988). In the age of the smart machine: the future of work and power. New York: Basic Books.

Table 1: ranges, values, means and standard deviations of variables

variable	mean	s.d.
age (years; range 22-54 years)	32.2	6.4
gender (1=male, 2=female; 76 men, 45 women)	1.4	.5
education $(1 = basic education,$		
10= university degree in journalism)	6.8	2.1
work experience in journalism		
(range 1-30 years)	7.4	5.4
tenure with the organization		
(range 0-23 year)	4.4	3.8
number of separate tasks belonging to		
the job (of 18 possible tasks,		
derived from the job analysis)	11.5	2.9
amount of overtime work per week		
(range is 0-20 hours)	6.3	4.4
number of evening services per month		
(range is 0-18 services)	3.5	3.5
evenings per week with possibility		
being called up (range is 0-7)	3.4	3.0
number of weekend services per month		
(range is 0-5)	1.1	1.3
weekends per month with possibility		
being called up (range is 0-5)	1.4	1.7
influence of the employees on what		
happens in the organization (one question.		
1=very little influence. 2=little influence.		
3 = some influence, $4 =$ a fairly amount of		
influence, 5=very much influence)	2.4	.9
amount of conflicts between management		
and employees (one question, $1 = ves$.		
very often, 2=ves, often, 3=from time		
to time, $4=n0$, seldom, $5=n0$, almost never)	3.0	1.2
influence of the works council (one	0.0	1.2
question, 1=very large, 2=rather large		
3 = neutral 4 = rather small, 5 = very small)	3.8	11
satisfaction with the content of meetings	5.0	1.1
(one question, 1=very satisfied, 2=rather		
satisfied. 3=neutral. 4=rather		
dissatisfied, 5=very dissatisfied)	35	1.1
iob involvement (a scale of 13 items	5.5	1.1
Cronbach's alpha = $88: 1 = 100, 5 = high$	40	7
satisfaction with management (a scale of	4.0	• /
4 items (Cronbach's alpha = $83 \cdot 1 = high$		
5=low	35	8
organizational culture (a scale of 8 items	5.5	.0
Cronbach's alpha = $79 \cdot 1 = \text{open } 5 = \text{closed}$	29	8
(10100001 s alpha73, 1 - 0pcll, 3 - (10300))	2.7	.0

variable	mean	s.d.
perceived quantitative workload (a scale of		
3 items, Cronbach's alpha = $.79$; 1=high,		
4 = low)	2.5	.7
perceived time pressure (a scale of 5 items,		
Cronbach's alpha = $.69;1 = high, 4 = low$)	2.1	.5
negative feelings (miserable, gloomy,		
depressed, worried and uneasy, a scale of		
5 items, Cronbach's alpha = $.90$; 1 = never,		
6=always)	2.3	1.0
positive feelings (enthusiastic, optimistic,		
cheerful, contented, a scale of 4 items,		
Cronbach's alpha = $.86$; 1 = always, 6 = never)	3.6	.9
feelings of tension (tense, calm (recode),		
relaxed (recode); a scale of 3 items,		
Cronbach's alpha = $.84$; 1=never, 6=always)	3.4	1.0
carry-over (a scale of 4 items, Cronbach's		
alpha = .78; 1 = low, 5 = high)	3.1	.9
aspiration (a scale of 6 items, Cronbach's		
alpha = .64; 1 = high, 5 = low	1.7	.6
competence (a scale of 6 items, Cronbach's		
alpha = .72; 1 = high, 5 = low	2.4	.7
number of somatic health complaints		
(a scale of 21 items)	5.2	2.9

table 2: stepwise regression of all variables on health complaints

Variable	Beta	Т	Sig T
carry-over	.75	10.71	.00
gender	.23	3.32	.00
time pressure	.37	4.94	.00
overtime	.26	3.57	.00
age	25	-3.29	.00
influence	.19	2.70	.01
(Constant)	-12.97		

Multiple R = .82; R Square = .67; Adjusted R Square = .64; Standard Error = 2.45

table 3: stepwise regression of the objective characteristics and subjective stressors and opinions on health complaints

Variable	Beta	Т	Sig T
gender	.29	2.86	.01
job involvement	27	-2.60	.01
overtime	.20	2.00	.05
(Constant)	7.58		

Multiple R = .41; R Square = .16; Adjusted R Square = .13; Standard Error = 3.92

table 4: stepwise regression of the objective variables and subjective stressors and opinions on carry-over

Beta	Т	Sig T
26	-2.72	.01
26	-2.63	.01
27	-2.73	.01
25	-2.46	.02
7.52		
	Beta 26 26 27 25 7.52	Beta T 26 -2.72 26 -2.63 27 -2.73 25 -2.46 7.52 -2.46

Multiple R = .54; R Square = .29; Adjusted R Square = .25; Standard Error = .80

table 5: stepwise regression of the objective characteristics and subjective stressors and opinions on time pressure

Variable	Beta	Т	Sig T
evenings with possibility			-
being called up	41	-4.13	.00
number of tasks	20	-2.05	.04
(Constant)	2.70		

Multiple R = .44; R Square = .19; Adjusted R Square = .17; Standard Error = .44

Table 6:results of the cluster analysis: percentage of employees belonging to clusters with
more than 20 persons indicating that they are doing certain tasks

		clus	ter
tasks	1	2	4
a. selecting information (news)	71	30	95
c. attending regional meetings	67	15	95
d. coordination and planing	52	15	95
e. giving assignments	76	05	95
h. interviewing	90	100	62
i. background reports	81	95	48
m. presenting	43	5	38
n. archiving tapes	14	0	67
o. administration	5	0	90
p. telephone watching	43	45	86
tasks	2.0	1.3	2.6
not differentiating tasks			
b. attending work meetings	95	95	100
f. collect information	100	85	100
g. contact maintenance	100	90	95
j. writing news messages	100	95	100
k. write intro/finish lines	100	85	100
1. technical tape fitting	100	85	86

number of tasks: 1= few (1-9), 2= average (10-13), 3= many (14-18).

 Table 7:
 job-titles of persons belonging to the three clusters

	clu	uster		
job-title	1	2	4	total
reporter	4	11	1	16
reporter/editor	16	9	19	44
editor	1	0	1	3
total	21	20	21	62

personal & work	editor/reporte	r	reporter		editor		
characteristics	(N = 21)		(N = 20)		(N = 2)	.0)	
	mean	Sd	Mean	Sd		Mean	Sd
age	31.4	5.8	29.4	3.6		32.6	6.1
level of education	7.2	1.9	7.7	1.1		6.5	2.3
work hours per week	36.0	3.7	36.4	3.5		35.8	3.2
over work (h. pw.)*	5.9	3.2	7.3	3.9		3.9	2.5
evening services *	4.9	2.2	4.1	3.6		2.2	2.0
evenings potential							
being called up *	3.8	2.6	5.1	2.4		2.2 2.	.8
number of tasks							
- actual *	11.7	1.1	8.6	1.4		14.1	1.9
- wanted more	3.0	3.1	2.2	1.6		3.4	2.7
- wanted less	1.2	1.4	0.8	1.2		1.6	1.4

Table 8: personal and work characteristics of employees belonging to the three clusters

* p<.01

 Table 9:
 health and well-being indicators of employees belonging to the three clusters

health and well-	editor/report	ter	reporter		editor		
being indicators	(N = 21)		(N = 20)		(N =	20)	
	mea	n Sd	Mean	Sd		Mean	Sd
days absenteeism	8.0	10.5	17.5	36.7		14.1	39.7
% went to doctor	38 9	6	60 %			43 %	
% cause is work	48 9	6	45 %			35 %	
health complaints	5.0	3.7	6.2	4.4		4.4	3.4
well-being (Warr)							
negative affects	1.9	0.5	2.6	1.1		2.1	0.8
positive affects	3.3	0.5	3.6	0.8		3.3	0.9
tension	3.3	0.7	3.6	0.9		3.2	0.9
mental health (Warr)							
competence	2.3	0.4	2.5	0.6		2.2	0.6
carry-over	3.0	0.6	3.0	0.8		2.8	0.8
aspiration	1.5	0.4	1.9	0.5		1.8	0.5

table 10: stepwise regression of all variables on health complaints

Variable	Beta	Т	Sig T
carry-over	.62	6.37	.00
age	46	-4.37	.00
influence	.35	3.30	.00
works council	.22	2.20	.03
gender	.21	2.08	.04
(Constant)	-3.76		

Multiple R = .82; R Square = .67; Adjusted R Square = .62; Standard Error = 2.15

table 11: stepwise regression of all objective characteristics and subjective stressors and opinions on health complaints

Variable	Beta	Т	Sig T
age	41	-3.05	.00
(Constant)	13.94		

Multiple R = .41; R Square = .17; Adjusted R Square = .15; Standard Error = 3.40

table 12: stepwise regression of all objective characteristics (excluding age) and subjective stressors and opinions on health complaints

Variable	Beta	Т	Sig T
evening services	.29	2.18	.03
job involvement	30	-2.31	.03
working hours	.29	2.17	.04
(Constant)	80		

Multiple R = .52; R Square = .27; Adjusted R Square = .21; Standard Error = 3.28

table 13: stepwise regression of all objective characteristics and subjective stressors and opinions on carry-over

Variable	Beta	Т	Sig T
time pressure	36	-2.580	.01
(Constant)	4.61		

Multiple R = .36; R Square = .13; Adjusted R Square = .11; Standard Error = .75

table 14: stepwise regression of all objective characteristics and subjective stressors and opinions on time pressure

Variable	Beta	Т	Sig T
conflicts	.45	3.371	.00
(Constant)	1.49		

Multiple R = .45; R Square = .20; Adjusted R Square = .18; Standard Error = .35

Figure 1: research model

<pre> objective characteristics of the person and> work situation</pre>	subjective stressors/ opinions>	↓ potential stress- effects
e.g. age, gender e.g. working hours	e.g. management, culture, time pressure	well-being, mental health, health

