

The aging worker in a changing work environment

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Structural changes in the labor market, the implementation of new technology, and new forms of work organization are setting demands for the adaptation of people in worklife. Demands for more flexibility and a higher quality of products and services influence both the organizational and individual levels (2, 7). Together with these rapid changes in worklife, the share of older age groups in the labor force will increase sharply in Finland by 2000–2010 (5).

A positive linear relationship between age and overall job satisfaction, satisfaction with work itself, and job involvement has been reported in numerous studies (8). It has also been shown that vocational interests and personality traits associated with these interests are highly stable across adulthood (3). The age-work performance relationship has proved to be more complex (1, 8). More emphasis should be placed on longitudinal studies at work and on the perspective of life-span development (4).

The following two questions are discussed in this paper: first, how do middle-aged and older persons evaluate recent changes in their worklife, and, second, are there age-related differences in the evaluation of the impact of information technology on work?

Subjects and methods

Changes in work content, work environment, equipment, and work load were evaluated by a questionnaire survey in 1985, which was part of a larger project dealing with the determination of retirement ages for municipal occupations (9). The subjects were 48 to 62 years of age and represented a total of 40 different blue- and white-collar occupations. The employees evaluated the changes during 1982–1985. The answers of those who had remained in the same occupation during the study period (2 120 women, 1 556 men) have been evaluated in this paper.

The second part of the paper is based on a research program called "Information Technology and Working Environment." One part of the program was carried out in financial firms in Finland. The study was started in 1985 with a questionnaire survey dealing with job demands, work organization, occupational stress and strain, and past experiences and future expectations concerning information technology. The survey

was repeated in 1987. The study sample comprised 1 747 employees in 1985 and 2 134 in 1987 in two insurance companies and four banks.

Results

Municipal employees

Evaluation of the past changes at work demonstrated that there was some decrease in changes by age. This trend could be seen more clearly in the women's groups in that 48 % in the age group 48–50 years and 62 % in the age group 60–62 years stated that the physical work load had remained the same during 1982–1985. The figures for mental load were 36 and 42 %, respectively, and for work environment and equipment, 43 and 51 %, respectively.

An increase in mental load was reported much more often (women 55 %, men 45 %) than an increase in physical load (women 29 %, men 15 %). The changes in mental load are presented in table 1.

The evaluation of the change in mental load had no linear relationship with age. The increase in mental load was slightly lower in the oldest age group. Consistently in every age group the women felt that mental load had increased during the previous four years more often than the men.

Table 1. Evaluation of change in mental load at work during 1982–1985 by age group (women = 2 120, men = 1 556).

Age group (years)	Mental load		
	Decreased (%)	Same (%)	Increased (%)
48–50			
Women	8	36	56
Men	8	46	46
51–53			
Women	11	33	56
Men	8	46	46
54–56			
Women	10	35	55
Men	9	45	46
57–59			
Women	9	36	55
Men	8	48	44
60–62			
Women	11	42	47
Men	7	50	42

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Banking and insurance

The recent phase of computerization in banking and insurance with distributed data processing systems includes consumer self-service, electronic linkage between firms and customers, and an expanding use of data terminals and microcomputers.

The daily use of equipment connected with computers was high (more than 50 % of the employees) in every age group. Only in the oldest groups was there a lower daily use of microcomputers (over 50 years 14 % versus total 25 %).

Table 2. Evaluation of how sufficiently the banking and insurance employees (N = 1 365) had mastered the computer applications at work in 1987 by age group.

Age group (years)	Completely (%)	Incompletely (%)
≤ 29	21	5
30—34	19	6
35—39	12	9
40—44	14	10
45—49	7	14
≥ 50	9	12
Total	15	9

Table 3. Expectations and experiences of the impacts of information technology by age groups (subjects N = 809) which expected an increase/decrease in 1985 and evaluated the situation in 1987.

	Age		
	≤ 34	35—44	≥ 45
Increase			
Work pace			
1985	31	38	38
1987	50	60	52
Difficulty of tasks			
1985	34	39	39
1987	37	43	44
Level of interest of work			
1985	29	29	25
1987	45	40	41
Opportunities to use one's abilities			
1985	26	29	25
1987	38	40	32
Possibility to select order of work tasks			
1985	14	11	12
1987	20	18	14
Monotony of work			
1985	33	35	40
1987	7	14	19
Decrease			
Things to be remembered			
1985	55	59	61
1987	36	37	43
Contacts with co-workers			
1985	25	28	36
1987	22	26	25

A linear age-related difference was seen in the evaluation of how well the employees were in command of their computer applications. It can clearly be seen in table 2 that the problems of mastering the applications increased with age. The feeling of insecurity was highest in the age group 45—49 years.

The expectations and evaluations of the effect of new technology are presented in table 3. The expectations of the youngest group in 1985 were slightly more optimistic than those of the other groups. They were less anxious about a possible increase in work pace and the difficulty of tasks and about a decrease in social contacts. Two years later, even though the changes in job characteristics due to information technology were rather small, the oldest group more often felt that the monotony of the work had increased and the memory load had not decreased as much as expected. The positive impact on opportunities to use one's abilities was also slightly smaller in the oldest age group. It should be noted that, according to the evaluations of all the subjects, monotony had decreased (22 %) more often than it had increased (14 %).

Discussion

The results of the two studies were based on a preliminary analysis of age and change at work. The differences between the age groups in the evaluation of change at work were not dramatic. The selection effect (ie, those who had changed occupation and those who had been pensioned because of illness were not included in this analysis) partly explained the findings of the municipal survey. In the banking and insurance study, the time interval between the two surveys was rather short. A more-detailed analysis by age and occupational groups will be carried out later.

The updating of skills to fulfill new work requirements demands mental energy from all employees. Self-selection, training, and recruitment of older persons to different occupations usually occur according to criteria based on worklife demands during the ages in the 50s and 60s. The pressure to change personal career orientation can be more problematic to these age groups under the condition of continuous change. The banking and insurance study revealed that more emphasis must be placed on developing sufficient learning possibilities and support at workplaces. This process should be based on the older employees' long experience and high motivation at work.

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