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Turnover of professional drivers

by Ann-Lis Backman, MD, Erkki Järvinen, MSc¹

BACKMAN A-L, JÄRVINEN E. Turnover of professional drivers. *Scand j work environ health* 9 (1983) 36-41. The aspects of turnover were studied in a cohort of 1,597 male drivers who had joined the trade union between 1967 and 1969 and who lived in six urban municipalities in different parts of the country. The retrospective study comprised the period from 1969 to 1979. At the end of this period, 1.5 % of the cohort could not be traced, 3 % were living abroad, and 5 % were dead. An inquiry concerning occupation since 1969 was sent to 1,453 drivers (91 % of the cohort). In all, 1,156 drivers responded (80 %). A total of 69 % of the subjects who answered the questions was still employed as drivers in 1979, 24 % had turned to some other trade, 7 % had retired, and less than 1 % reported that they were out of work. The changes within the trade favored bus driving. The most common reasons for changing work were salary, the heaviness and irregularity of the work, and health. The major cause of death was accidents and other external causes, as could be expected in view of the drivers' comparatively young age in 1969 (mean age 29 years).

Key terms: accidents, cohort, inquiry, retrospective study.

In about 1975 the transportation trade unions in the Scandinavian countries started to pay added attention to the health conditions of professional drivers. As a result studies concerning the health and work conditions of professional drivers were initiated in Denmark, Norway, Sweden, and Finland. In Denmark the conditions of bus drivers were investigated (2). This investigation included a cohort study on turnover, morbidity, and mortality among bus drivers during 1972-1977. The study showed that the older bus drivers usually left the occupation because of illness, but the younger ones for other reasons. Cardiovascular disease was the most common illness causing early retirement among drivers more than 50 years of age. Death from coronary heart disease was more common among bus drivers in Copenhagen than among other employed males in the same age groups. A mortality study from the United States also reported cardiovascular disease as the major cause of death among truck drivers (3).

In 1979-1980 a study on the health, work conditions, and turnover of professional drivers was carried out at the Finnish Institute of Occupational Health (1). The target groups were local bus drivers, truck drivers, stock delivery drivers, and tank truck drivers, all of whom were members of the Finnish Transport Workers' Union.

The work conditions were clarified by means of an inquiry. The drivers in the five groups expressed different complaints about the work conditions. The stock delivery drivers, for instance, complained mostly about the loading and unloading conditions and about draft and cold. They, as well as the truck drivers, frequently moved heavy burdens. The bus drivers, the local bus drivers in particular, complained mostly about traffic congestion and tight schedules. It seemed that the work of the truck drivers and the stock delivery drivers was physically heavy, whereas the bus drivers experienced considerable mental strain. It was thought that the turnover study could indicate what occupations within the trade were the most favored by the drivers.

Furthermore, the data from the health survey suggested a health-based dropout from the trade because the drivers in the

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age group of 45–54 years were healthier than the younger drivers. It seemed likely that drivers with health problems had left the occupation. The turnover study could possibly explain the reasons for leaving the trade and – in cases with illness as the reason – could clarify what diseases most commonly cause turnover among drivers.

Because of the cross-sectional nature of the health and work investigation, an additional retrospective cohort study concerning the reasons affecting occupational turnover was considered necessary. The aims of the turnover project were the investigation of those factors which affect occupational turnover and the comparison of these factors with the results of the study on health and work conditions among drivers.

Material

The aspects of turnover were studied in a cohort of 1,597 male drivers who joined the Finnish Transport Workers' Union between 1967 and 1969 and lived in six urban municipalities in different parts of the country. Because of various climatic conditions in different parts of Finland (for instance, more snow and colder winters in the northern and eastern parts of the country), the localities were selected to represent the south (Helsinki), the north (Oulu), the west (Turku and Pori), the east (Kuopio), and the middle parts (Tampere) of the country. Members who had not worked at all as professional drivers or had done so only a short time (2–3 months) were not included.

The follow-up comprised the period from 1969 to 1979. At the time of the inquiry (1980–1981) 1,453 subjects of the cohort could be contacted, 72 had died, and 1 had been proclaimed dead. There were 71 persons who could not be reached (47 living abroad and 24 untraceable). All 71 were excluded from the study. In 1969, the mean age of the cohort was 29 (range 19–63) years, and the cohort mainly included drivers aged 20–39 years.

The admittance criteria for the turnover study, as well as the criteria for the health screening and the inquiry concerning the work conditions of professional drivers, are depicted in fig 1. There were 67 drivers who participated in both investigations.

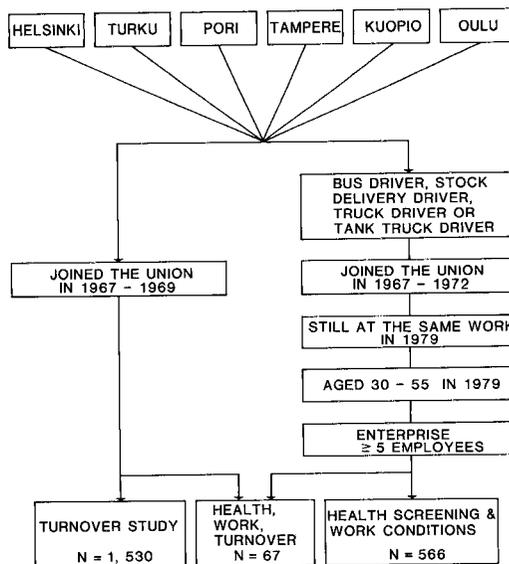


Fig 1. Admittance criteria for the turnover study, the health screening, and the inquiry concerning the work conditions of professional drivers.

Methods

The turnover data were collected by means of a postal inquiry. The following questions were asked:

What work did you do when you joined the trade union?

What work have you done in 1969–1979?

If you have changed work, what were the reasons?

If you have retired, was it because of your age or as a consequence of some disease or because of disability following some accident?

If you changed work for health reasons or retired because of disability, which of the following diseases was the cause: back trouble, rheumatic complaints, heart disease, high blood pressure, stomach trouble, chronic bronchitis, some skin affection, disability following some accident, some other disease, what?

The first 500 questionnaires were mailed in October 1980 to those drivers who were still members of the Union and whose addresses therefore were known. The remaining drivers were traced through different population registers, and the last questionnaires were sent in August 1981.

The inquiry went to 1,453 drivers. Half of them responded within a month. A reminder was mailed a month later to the drivers who had not answered. In all, 1,156 drivers (80 %) responded. The results concerning turnover and retirement are based on the answers given by the drivers. The information concerning the causes of death was acquired from death certificates registered in the Central Statistical Office of Finland. The expected values of death causes are based on sex- and age-specific proportions of the general population in 1975.

Results

During the period 1969–1979, 43 % (N = 489) of the 1,136 drivers who answered the appropriate questions had either been performing the same task all the time or they had returned to it after a short period in some other job. In all, 26 % (N = 294) had changed tasks within the trade, 24 % (N = 268) had turned to some other trade, 7 % (N = 76) had retired, and less than 1 % (N = 9) reported that they were out of work.

Almost 60 % of the 391 men who had been bus drivers in 1969 were still bus drivers ten years later, but in 1979 only a third of the other drivers were still performing the same task as in 1969 (table 1). In all, 36 % (N = 106) of the 294 drivers who had changed tasks within the trade

had become bus drivers. In 1969, 35 % (N = 391) of the subjects in the five target groups (N = 1,102) were bus drivers, but, among the 724 drivers from the same groups who, in 1979, still remained in the trade, the proportion of bus drivers had increased to 46 % (N = 334). The younger men changed to bus driving more often than the older ones. The middle-aged drivers, on the other hand, tended to change to truck driving, to gravel and soil transport in particular (fig 2). Only 16 % of the bus drivers and 18 % of the truck drivers engaged in gravel and soil transport had left the trade. The corresponding rates for the other target groups were 24–32 % (table 1).

The drivers who had left the trade had frequently gone to a type of work in which they were still in touch with driving or with motor vehicles. Fourteen percent of the drivers who had changed jobs were still engaged in transportation, either as independent entrepreneurs or as supervisors. The job had often been changed for a better position. Some drivers were working as service station attendants. About 6 % were operating lifting cranes, digging machines, or tractors. There were also some former drivers who were car salesmen and driving instructors. About 13 % had gone to the metal industry, and 10 % were working as fitters, either as motor vehicle mechanics, electrical fitters, or radio and television mechanics. The answers com-

Table 1. Turnover distribution (%) in five driver groups.

Task in 1979	Task in 1969				
	Truck driving (N = 227)	Stock delivery (N = 342)	Tank truck driving (N = 58)	Truck driving in gravel and soil transport (N = 84)	Bus driving (N = 391)
Same as in 1969	39	33	30	35	59
Changed to truck driving	.	4	10	3	1
Changed to stock delivery	3	.	5	6	2
Changed to tank truck driving	7	1	.	6	—
Changed to truck driving in gravel and soil transport	7	6	10	.	7
Changed to bus driving	14	15	3	24	.
Changed to other driving	1	5	7	3	5
Changed to another trade	24	32	29	18	16
Unemployed	—	1	—	1	1
Retired	4	4	5	3	9
Total	100	100	100	100	100

prised almost 60 occupations from more than 30 trades.

Reasons for changing work

In all, 472 drivers told their reasons for changing work. The number included those drivers who had temporarily had other jobs but had returned to their original task. The most common reasons were unsatisfactory salary (31 %), the heaviness of the work (20 %), the irregularity of the workhours (14 %), and health (12 %). Drivers who had changed to some other trade had in 39 % of the cases decided to do so for economic reasons, and 29 % of the drivers who had changed tasks within the trade had done it for a higher salary. Most of the younger drivers who did not return to their original work put economic reasons first. The older drivers, however, considered salary to be less important than health factors (table 2).

There were 91 drivers who had changed work because they found their original task too demanding physically. More than half of them had left the trade and found other occupations, and more than a fifth had become bus drivers. Among those who considered the work too heavy were 15 bus drivers, seven of whom had left the trade and three of whom had tried other jobs and later returned to bus driving. The answers suggested that the drivers considered bus driving the physically lightest task within the trade.

In all, 55 drivers had changed jobs for health reasons. Of them 25 had left the trade, 4 had retired because of ill health, 6 had returned to their original work after temporary changes, 7 had become bus

drivers, 5 were driving trucks in gravel and soil transport, and the remaining 8 had changed to taxi driving, tank truck driving and stock delivery. Twelve bus drivers had changed work for health reasons. Seven of these men had left the trade and two had returned to bus driving after trying other work inbetween. The results suggest that the drivers believed bus driving to be the least unhealthy, as well as the physically lightest, task within the trade. Bus drivers who considered their work unfavorable to health or too heavy usually sought employment outside the transportation trade. The most common health reason was back trouble; of the 1,073 drivers who answered the question concerning diseases, 12 % reported back symptoms. It is to be noted that only 2 % mentioned heart disease.

The answers showed that 76 drivers had retired, 10 because of old age, 56 as a consequence of some named disease, and 10 because of disability following some accident. The reasons for early retirement were mostly cardiovascular diseases (29 cases) and back trouble (18 cases). The

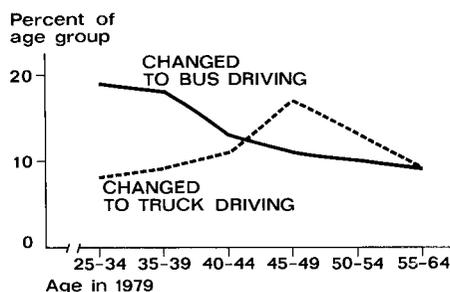


Fig 2. Age-specific percentages of drivers who had changed to bus driving and to truck driving in gravel and soil transport.

Table 2. The age-specific reasons for changing work.

Reason for changing work	Age (years) on 31 December 1979				
	≤ 34 (N = 105) (%)	35-39 (N = 137) (%)	40-44 (N = 114) (%)	45-49 (N = 48) (%)	≥ 50 (N = 40) (%)
Salary	41	35	26	21	7
Heaviness of work	16	20	20	15	35
Irregularity of work	17	17	10	19	7
Health	6	10	15	23	20
Other	21	19	28	22	30
Total	100	100	100	100	100

most common cardiovascular diseases mentioned were hypertension and coronary heart disease.

Causes of death

During the period 1967–1980, in spite of the comparatively young ages of the men in the cohort, 72 of the drivers had died. The most common causes of death were accidents and other external causes (37 drivers), cardiovascular diseases (19 drivers), and tumors (10 drivers). In all, 26 drivers died under the age of 40. The drivers who died of tumors or of cardiovascular disease were all at least 40 years of age however. There were four cases of lung cancer among the ten deaths from tumors. Drivers who died of external causes were usually (86 %) younger than 45 years of age. Traffic accidents were responsible for ten deaths, of which three had occurred during the drivers' leisure time and seven during workhours. Death from cardiovascular disease was less common than among the corresponding age groups in the general population (table 3). The rates of accidents and other external causes of death, especially those of traffic accidents and suicide, were higher than might be expected in view of the rates of the general population (table 4).

Table 3. The most common causes of death and their expected estimates.

Cause of death	Observed		Expected	
	N	%	N	%
Tumors	10	14	10.6	15
Cardiovascular diseases	19	26	27.4	38
External causes	37	51	23.8	33
Other	6	9	10.3	14
Total	72	100	72.0	100

Table 4. External causes of death and their expected estimates.

Cause of death	Observed		Expected	
	N	%	N	%
Traffic accidents	10	14	5.2	7
Suicide	15	21	7.5	11
Other external causes	12	16	11.1	15

Discussion

At the end of the follow-up period at least half of the cohort was still employed as drivers. A fourth of the subjects who answered the questionnaire had turned to other trades. One-third of the drivers who had changed work had done so for economic reasons. This was more often the reason when a worker changed to a different occupation than when he changed tasks within the trade. Seven percent of the drivers who answered the questionnaire had retired because of permanent disability. This rate is lower than that of Finnish concrete reinforcement workers, their corresponding figure being 12 % in five years (4).

The drivers who changed work for health reasons or because they found their work too heavy usually turned to other occupations outside the trade, but, if they stayed in the trade, the most common choice was bus driving. Bus drivers remained at their original task more often than other drivers and, if they decided to change, often left the trade. Briefly, the drivers seemed to find bus driving the easiest and least unhealthy task within the trade and tended to change over to this task. Yet the results from the inquiry concerning work conditions (1) showed that bus drivers in particular experienced considerable mental strain. Consequently the drivers tended to change from physically heavy work to a physically light but mentally more demanding task. The middle-aged drivers seemed however to prefer gravel and soil transport. The explanation is probably that in this task the operating is highly automatic and does not demand physical strength and, besides, probably involves less mental strain than bus driving.

In Finland the prospective driver has to pass a health examination before he can get a driving license. Thus there is a health-based selection in the beginning of the work which prevents applicants with severe diseases from entering the occupation. Later on some of the drivers may develop symptoms of disease which, if serious enough, again causes a health-based dropout, leaving only drivers with good physical health in the trade. The health survey (1) suggested a health-based selection among drivers, because the men

in the age group 45–54 years seemed healthier than the younger ones (30–44 years of age).

Cardiovascular disease was the most common reason for early retirement, but death from cardiovascular disease was, on the other hand, less common among the drivers than among the general population. The major cause of death was accidents and other external causes. The second most common cause was cardiovascular diseases, and the third was tumors.

As could be expected, death from vehicle accidents dominated the accident category and was more common among drivers than among the general population. Obviously there is reason to consider ways to improve traffic safety. The high rates of suicide among Finnish drivers may partly be a consequence of the mental strain connected with transportation work, but the present study does not offer an adequate explanation. In an American mortality study (3) suicide among truck drivers was common, but the rates did not differ from that expected for the general population.

The present turnover study showed that the most common reasons for changing work were salary and the heaviness of the work. Consequently drivers tried to find easier occupations, especially when their health was failing. The results were, on the whole, consistent with the results from

the health screening and the inquiry concerning the work conditions of professional drivers.

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