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JOB SATISFACTION OF IOWA TRUCK DRIVERS

by Nicole P. Fuller* and Clyde Kenneth Walter**

ABSTRACT

Driver shortages, recruitment and retention are well-documented problems in trucking. This study was an application of Herzberg's motivator-hygiene theory to measure job satisfaction within this industry segment. Data were collected through a questionnaire mailed a randomly selected sample of Iowalicensed truck drivers. Through this increased understanding of what is considered satisfactory and unsatisfactory by drivers, employers may be better able to structure job descriptions, recruiting, and work assignments to attract and retain qualified drivers.

INTRODUCTION

Driver Shortage

As the decade of the nineties began, the truck driver shortage recognized by Gallagher (1988) and Eddy (1988) generated annual employee turnover rates exceeding 100 percent (Gilroy, 1991; 1992). This occupation had been volatile for several years before, with a 38 percent turnover rate observed in 1985 and 1986, ten times the turnover rate of manufacturing labor. Outcomes of this high driver turnover are higher accident rates (Corsi and Fanara, 1988) and higher recruiting and training costs, estimated at \$5,000 per employee (Private Carrier, 1991b). An understanding of what drivers find satisfying and dissatisfying about their jobs will help employers identify areas requiring attention. This article describes one study designed specifically to measured drivers' satisfaction levels of fifteen factors related to their jobs.

Many reasons for the driver shortage have been advanced, including a smaller labor pool, drug- and alcohol-testing rules, and the Commercial Drivers License (CDL) exam (Quinn, 1990) with its necessity for literacy skills (McNamara, 1991a). Deregulation and its attendant increase in price competition has caused carriers to become cost conscious, which translates into lower pay for drivers relative to other jobs (Oskroba, 1988; Hanley, 1990).

Other factors contributing to the driver shortage include time away from home, work schedules, working conditions, and lack of advancement (Schulz, 1991c).

Suggested solutions to the shortage have ranged from changes in personnel recruiting practices (LeMay and Taylor, 1988; Rakowski et al., 1989; Southern et al., 1989; Private Carrier, 1991b) to increased pay and improved training (Estes, 1988). **Potential** sources of additional drivers that have been suggested include military drivers (McNamara, 1991b; Schulz, 1991b; 1991e), minorities in the military (Delaney, 1991), women (LeMay and Taylor, 1988; Cooke, 1989; Schulz, 1991a), husband-and-wife teams (Freymiller, 1990), non-U.S. citizens (Weekly Commercial News, 1991), people under twenty-one years old (Traffic Management, 1989), and retirees (Wilson, 1988). Richardson (1989, p. 20) pointed out the importance of keeping good employees. LeMay and Taylor (1988, p. 17; Taylor and LeMay, 1991; Wanous, 1989) cautioned recruiters not to "over-sell" applicants since this recruiting strategy may result in unrealistic employee expectations fostering attitudes unfavorable toward employers or the occupation, leading to the permanent loss of these drivers. They explained that a basic understanding of the job's positive and negative attributes, assessed by those already employed, helps provide this necessary information to recruiters applicants alike.

Job Satisfiers and Dissatisfiers

Herzberg (1966, 1968; Herzberg, Mausner and Snyderman, 1959), with his twofactor motivation-hygiene theory, hypothesized two sets of man's needs: the animal need to human need for and the pain psychological growth. Herzberg categorized into two groups job factors that had been tracked since the forties by Jurgensen (1978). Herzberg tested man's duality in a study of two hundred engineers and accountants who identified satisfying and dissatisfying factors in their jobs.

Growth or self-actualization ic composed of six characteristics: relationships knowledge. in knowledge. ambiguity. creativity. effectiveness in individuation, and real growth (Herzberg, 1966, pp. 58-68). On the job, these motivating factors-achievement, recognition, the work responsibility, and advancement--all describe "man's relationship to what he does" (Herzberg, 1966, p. 74).

Other factors in the work environment, named the hygiene factors, rarely lead to positive job attitudes. Herzberg (1987, p. 119) explained that hygienes "at best create no dissatisfaction on the job." These "dissatisfiers" include company policy and administration, supervision, salary, interpersonal relations, and working conditions (Herzberg, 1966, p. 74).

Herzberg's work has been called "highly controversial but ingenious" (Strauss, 1974, p. 25) and a research effort that "laid the conceptual and methodological cornerstones for modern research into job characteristics" (Taber and Taylor, 1990, p. 467). It resulted in further studies about job motivation and preference factors (Jurgensen, 1978), direct applications of the theory (Kovach, 1987), and studies offering alternative theories (Kanungo and Hartwick, 1990).

Although Herzberg's human relations approach in organization behavior has been supplanted by others-e.g., Theories X and Y, transaction theory, path-goal analysis--in the ensuing three decades (Strauss et al., 1974), his hygiene and motivator factors continue to be used to explain behaviors in such contemporary management practices as quality circles (Tang, Tollison, and Whiteside, 1989). His theory became the basis for inquiries into job satisfaction in other industries, among them a study by Rodriguez and Griffen (1990, p. 458; 1991), who surveyed managers and drivers from thirteen motor carriers in North Dakota to measure the importance of nine job factors. Drivers ranked two hygiene factors-salary and benefits, and working conditions-as most important to their job satisfaction. The work itself, a satisfier, was rated third, followed by interpersonal relations and supervision (both Completing the advancement, company policies (a dissatisfier), recognition, and training.

DATA COLLECTION AND ANALYSIS¹

Questionnaire and Sample

This study measured how satisfied truck drivers were with fifteen specific job factors. A two-page questionnaire was developed, based on four of Herzberg's motivator factors (the work itself, advancement, recognition, and training) and eleven hygiene factors (salary and benefits, working conditions, peer relations, supervision, company policies, fatigue, health effects, law enforcement, risk of injury, time away from home, and weigh stations). The job factor list from the Rodriguez and Griffin study was augmented by the latter six items, and demographic questions similar to those used by Rodriguez and Griffin and by Beilock and Capelle (1990) were included. comparison with these previous results was provided, in keeping with Lamal's (1990) call for replication in the social sciences, as in other disciplines, as a means of confirmation or disconfirmation.

Respondents indicated their number of years driving in total and with their current employer, their expectations of driving in five years, and expectations of being with the same employer in five years. These indicators of "job hopping" may also be seen as measures of dissatisfaction. Drivers were asked how many nights their driving schedule causes them to be away from home. They were also asked for an overall assessment of how rewarding their jobs are. Additional questions described the driver's current employment (non-union, union, or owner-operators), age and educational background. A brief cover letter identified the researchers and their university affiliation and assured confidentiality of the responses.

These materials, along with a postage-paid business reply envelope, were mailed to 300 truck drivers with Class A and Class D licenses randomly selected from a list of 22,801 class A, B, C, and D drivers provided by the Iowa Department of Transportation. (Class A licenses are for vehicles with gross vehicle weight of 26,001 pounds or more, where the towed unit is 10,001 pounds or more. Class D are those drivers with commercial drivers licenses.) A total of sixty-four questionnaires were returned in completed or partially completed form.



Employment Profile

Age and education - Some general demographic descriptors were gathered to provide some insight on the drivers surveyed. In the sample of Iowa truck drivers, 66 percent were between thirty and forty-nine years old, 23 percent were fifty years and older, and 11 percent were under thirty. As shown in Figure 1, a large majority (83 percent) had graduated from high school; 41 percent had attended college; 24 percent had gone to truck driving school. Members of this sample were slightly older than drivers in the Rodriguez and Griffen (1990; 1991) study and had more years of education.

Nights away - Drivers were asked the number of nights spent away from home during a typical week. As Figure 2 shows, 31 percent spent no nights away from home, and 44 percent of the respondents were away from home between one and five nights during a typical week; the remaining 25 percent were away six or seven nights.

Experience and expectations - One-half of the respondents had driven up to fifteen years; one-half had driven more, from fifteen up to forty-five years. When asked how rewarding they found their job, 21 percent said "very rewarding" and 62 percent said "somewhat rewarding," nearly the same proportions found by Rodriguez and Griffen (1990). This measure was considered an endorsement of trucking as an occupation.

Owner-operators comprised 22 percent of the sample; the other 78 percent full-time drivers were 70 percent non-union and 8 percent union-affiliated drivers. The median length of employment by their current company was four years; 25 percent were in their first or second year with their current employer. Even though 28 percent of the drivers had been with their employer ten or more years, turnover appears to be a common phenomena and is consistent with published reports.

As shown in Figure 3, seventy-one percent of the Iowa drivers expected to be driving at least for the next five years. This figure was less than 6 percentage points above Rodriguez and Griffen's (1990) result. When compared with experience, there were differences (significant at the .10 level) in expectations: 82 percent of those who had been driving for fifteen years or longer expected to

continue driving, compared to 62 percent of the less experienced drivers. This observation differs somewhat from that of Beilock and Capelle (1990), who stated that older drivers were less likely to change occupations, but better educated drivers and those with other skills were less likely to remain in trucking. The Iowa data were correlated with years of experience rather than with age per se.

A similar portion (76 percent) expected to be with their same employer in five years. Considering the high turnover within the industry and the four-years of employment reported above, this apparent contradiction suggests that "employer hopping" is not a planned job strategy but, more likely, a response to shorter term motivators.

Satisfiers

Drivers were asked their attitudes of fifteen job motivators and hygiene factors by indicating "very satisfactory," "satisfactory," "neutral," "unsatisfactory," or unsatisfactory" on the questionnaire. These proportions appear in Table 1, with the first four factors being the motivators while the remaining eleven are the hygiene factors. Applying values from -2 to +2 to this Likerttype scale (Churchill, 1987, pp. 327-28; Ajzen and Fishbein, 1980, pp. 16-17) produces a display (Figure 4) of their relative satisfaction levels. One observation is that the respondents were generally positive in their ratings. Thus, only two factors, recognition and advancement, actually received more unsatisfactory ratings than satisfactory.

Further comparisons of the relative distributions of the fifteen attributes in the satisfaction array is potentially enlightening. Each was cross-tabulated with the variables and the chi-square values calculated (and displayed in Table 2) to provide a test for the general null hypotheses that there is no relationship between the satisfaction-dissatisfaction of one particular factor and a specified classifying employment variable. To reduce the proportion of cells with expected values less than 5 (Churchill, 1980, p. 723; Norusis, 1988, p. 244) groups were collapsed into satisfactory (including very satisfactory) and not satisfactory (including neutral, unsatisfactory and very unsatisfactory).

The work itself - This factor was the one clearly rated the most positive, with 90



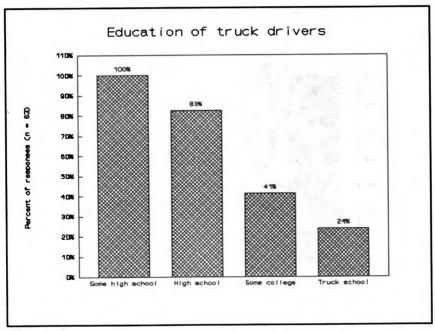


Figure 1

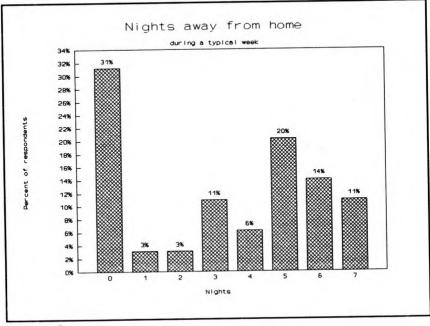


Figure 2

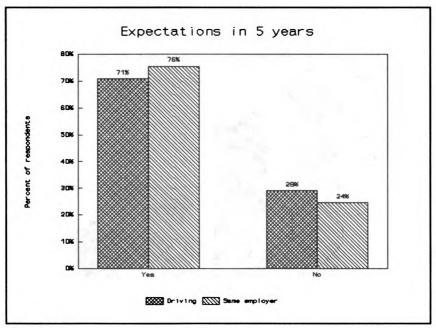


Figure 3

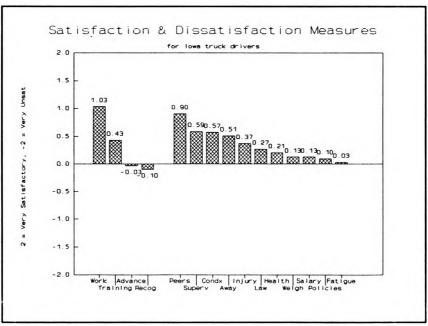


Figure 4

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Table 1 - S	Table 1 - Satisfaction and Dissatisfaction Measures of Fifteen Motivator and Hygiene Job Factors	sfaction Measures	of Fifteen Motivat	or and Hygiene Job	Factors
		Pe	Percent of Respondents ^a	entsa	
	Very Satisfactory	Satisfactory	Neutral	Unsatisfactory	Very Unsatisfactory
Motivator Factors					
Work itself	17.7	72.6	6.5	1.6	1.6
Training	9.5	39.7	38.1	6.6	3.2
Advancement	11.1	20.6	31.8	27.0	5.6
Recognition	7.9	27.0	23.8	30.2	11.1
Hygiene Factors					
Co-workers	16.1	62.9	17.8	1.6	1.6
Supervision	19.1	39.7	28.6	6.3	6.3
Working conditions	12.7	47.6	25.4	12.7	1.6
Time away from home	17.5	39.7	25.4	11.1	6.3
Risk of injury	6.5	46.8	27.4	16.1	3.2
Law enforcement	7.9	41.3	28.6	14.3	6.7
Health effects	4.8	38.1	34.9	17.4	4.8
Salary and benefits	12.7	25.4	28.6	28.6	4.7
Weigh stations	5.6	30.2	34.9	14.3	11.1
Company policies	6.4	31.7	34.9	19.1	6'L
Fatigue	7.9	31.8	25.4	25.4	5.6
$a_{max} = 63$					



L	Fable 2 - Si	stisfaction wi	ith Motivator	Table 2 - Satisfaction with Motivator and Hygiene Factors vs. Employment Variables: Chi-Square Values	Factors vs. E	mployment Va	ariables: Ch	i-Square Vak	Jesa	
				Emp	loyment Variables	Employment Variables (Degrees of Freedom)	dom)			
	Years of	Years	Nights	Rewarding	Driving in 5	Same	Employ-	υβγ	Truck	Some
		Carrier	featy		Years	in Syr.	Category			
	(1)	(1)	(2)	(1)	(1)	(1)	(1)	(1)	(D)	(1)
Motivator Factors										
Work itself	00	00"	657	4.74	3.10	 \$879	1.75	യ	St.	32
Training	19'1	09'	70'	90'	28.1	11.	77	π.	60°	.75
Advancement	30	00"	90"	16	6.64	334	2.54	707	ω.	.87
Recognition	1.12	627	787	3.91	3.47	5.81	5.31	1.27	.18	2.41
Hygiene Pactors										
Co-workers	.14	00'	<i>L</i> 0°	1.14	.02	431	.14	90	æ	1.13
Supervision	84	3.36	527	.10	3.10	1.04	19'1	.00	391	.06
Working conditions	00	SE	197	90'9	1.83	3.12	00'	39	1.21	1.52
Time away from home	70.	1.71	11.94	1.32	<i>2</i> 0°	4.53	2.21	7.69	1.06	.00
Risk of injury	.14	.02	05	32	01.	1.10	egr	.64	#	.00
Law enforcement	90.	ιx	3.74	80.	.13	87.	1.68	.02	38	.00
Health effects	1.64	1.68	16.	æ	707	2.34	191	305	28.	2.27
Salary & benefits	90.	28	OC"	4.75	2.47	,959	2.21	1.14	24	.79
Weigh stations	99:	2.50	181	99:	6 6	ον:	3.34	30	.12	386
Company policies	297	1.76	85	99:	2.47	5.81	2.68	.30	10"	3.82
Fatigue	.00	46	3.77	2.57	4.65	1.63	00"	.06	5.99	24
^a Significant at .10 level;	:	significant at .05 level;	significant at .01 level.	level.						

percent of the drivers giving it satisfactory or very satisfactory ratings. The chi-square tests for association between variables suggest that 86 percent of the drivers who were satisfied with the work itself also agreed that the job was "rewarding overall;" only 50 percent of the remaining drivers found the job rewarding.

Expectations concerning employment in five years also varied with drivers' satisfaction with the work itself: 76 percent of those rating the work satisfactory expected to be driving (vs. 40 percent of the other drivers). More pronounced group differences (significant at the .01 level) were the 83 percent of those rating the work itself as satisfactory also expected to be driving for their current employer, while only 25 percent of the drivers rating the work neutral or unsatisfactory would remain with their employer.

Training - In-house training programs have been credited for lowering accident rates, insurance premiums, fuel usage, CDL exam failure rates and turnover (Handling & Shipping Management, 1985; Deierlein, 1989; Traffic Management, 1990; Wiseman, 1991). Among the respondents to the survey, training was in the middle group of satisfactory ratings and also received relatively few unsatisfactory ratings. Training was one of three job factors that showed no differences in satisfaction level of the employment variables.

Advancement Satisfaction advancement was rated lowest among the fifteen factors listed. Advancement received the second greatest number of unsatisfactory ratings, as with over 46 well. percent answering unsatisfactory or very unsatisfactory. The chisquare tests suggested that drivers' expectations varied by their satisfaction with opportunities for advancement, with 79 percent of the satisfied drivers anticipating driving in five years, 10 percentage points higher than the group less than satisfied; these differences were significant at the .01 level. Similarly, 93 percent of the drivers satisfied with advancement opportunities expected to work for the current employer in five years, compared with 69 percent of the less satisfied drivers.

To combat the problems apparent with a lack of advancement, Rodriguez and Griffin (1990, p. 462) suggested a system of classification of drivers, such as apprentice, certified, advanced, senior, and master. Advancement, both in prestige and pay, would

be possible without being pressured to become managers or change employers.

Recognition - Although respondents seemed to appreciate the work of driving a truck, they were unsatisfied with the level of recognition their efforts produced. Forty-one percent gave this attribute unsatisfactory ratings. The tests for group differences showed that 40 percent of those who found their jobs rewarding were satisfied with the level of recognition, but just 9 percent of those considering truck driving as not rewarding were satisfied with this factor. Of those satisfied with opportunities for recognition, 86 percent expected to be driving in five years, and 95 percent expected to be with their current employer, compared with 64 percent of the less than satisfied who would be both driving and for the same employer. Different levels of satisfaction with recognition were displayed by owner-operators (67 percent were satisfied) and full-time drivers (30 possibly the percent), reflecting recognition that ownership bestows.

There is growing support for increased driver recognition. For example, the National Private Truck Council established its Driver Hall of Fame for those who have driven minimums of twenty years or two million accident-free miles (*Private Carrier*, 1991a). Recognition, participation, praise and respect were listed as motivators "better than cash" by Vial (1991). Oskroba (1988, p. 39) counseled, "Realizing the importance of drivers is the first step toward making the situation better for everyone."

Dissatisfiers

Peers - Drivers seemed to like other drivers, with 79 percent rating their co-workers at least satisfactory. Only 3 percent gave their co-workers a rating less than neutral. The one group difference observed was that 85 percent of the drivers satisfied with their co-workers expected to be with their current employer in five years, compared to 55 percent of those less than satisfied.

Supervision - Although considered a hygiene factor rather than a motivator, supervision received 59 percent satisfactory ratings, more than ten other job attributes. Satisfaction with supervision was found not to be independent of two other employment variables, based on the chi-square statistics.

Drivers who had attended truck driving school were more likely to rate supervision as satisfactory than were other drivers, 80 percent vs. 51 percent. Their education may have provided them with a more realistic view of what to anticipate on the job. Drivers satisfied with supervision were also more likely (81 percent) to expect to be driving in five years than were the drivers who were less than satisfied with supervision (60 percent).

Working conditions - As with the work itself, working conditions—which are influenced by the trucks, roads and weather—were rated highly, with 60 percent considering them either satisfactory or very satisfactory. The chi-square test led to a rejection of the hypothesis that there is no relationship between satisfaction with working conditions and considering the job to be rewarding. Ninety-two percent of the drivers who were satisfied with the working conditions considered their jobs rewarding, compared to 68 percent who rated working conditions less than satisfactory.

Working conditions may have been connected more to the employer than to the tasks performed. While 86 percent of respondents rating working conditions as satisfactory expected to drive for their current employers for the next five years, 63 percent of those less than satisfied with conditions expected to remain with their employers. The large majorities for both cases indicates widespread acceptance of the working conditions experienced by the drivers.

Time away - Chi-square statistics revealed dependence between time away from home and satisfaction with nights away. Eightynine percent of the "home each night" drivers were satisfied with this factor, while 46 percent and 38 percent of the one through five nights away and over five nights drivers, respectively, considered this aspect satisfactory. Satisfaction with nights away also varied (again at the .01 level) with age: 76 percent of the under forty drivers found time away satisfactory, compared with 41 percent of the forty and over drivers. Drivers satisfied with the time away from home also were more likely to expect to remain with their current employer in the next five years (88 percent) than were drivers rating time away as neutral or unsatisfactory (61 percent).

Risk of injury - With the exception of an occasional shooting (*Transport Topics*, 1990), the risk of injury is generally related to traffic accidents. The surveyed drivers treated this risk just about the same as effects on health. Drivers' satisfaction-dissatisfaction ratings did not differ according to the employment variables measured. Its position near the middle of the satisfaction ratings suggests that this risk, while not a motivator, is not a detractor from the job satisfaction of the drivers surveyed.

Law enforcement - Nearly one-half of the drivers considered law enforcement as a satisfactory influence on their job. Unsatisfactory ratings were given by 24 percent of the drivers, and 29 percent were neutral. There were no significant group differences, indicating a general agreement with the role of this hygiene factor.

Effects on health - The physical motions of driving, including bouncing, pitching, and vibration, can adversely affect drivers' bodies. Back pain is especially common (Berg, 1991a). As a job attribute, health effects ratings tended toward mid-range, with 43 percent in the satisfactory and 22 percent in the unsatisfactory categories; 35 percent of the ratings were neutral. Assessments of health effects were uniform across groups; no statistically significant chi-squares were found.

Salary and benefits - Compensation, treated as one factor, is composed of basic wages plus a benefits package which may include insurance (life, health, disability), legally required items (social security, workers' compensation, state unemployment), paid leaves (holiday, vacation, personal, sick, jury, funeral, military) and retirement and savings plans (Stelluto and Klein, 1990). Wages have been considered a hygiene factor by other Herzberg and other researchers. That is, income is necessary more "to prevent pain" than for selfactualization. However, personnel directors felt pay to be the highest ranked incentive in a study by Southern, Rakowski, and Godwin (1989); health benefits ranked a distant fifth. trucking writer said, "Financial incentives usually produce the best results, although some look upon this as a bribe" (Dressner, 1991, p. 19). Remuneration might be a potential satisfier and aid in retention (Oskroba, 1988; Traffic World, 1990; Bearth, 1990). In a related public utilities commission case, there was a suggestion that lower paid drivers may have more accidents (Distribution, 1990).

Among the responding drivers, salary and benefits were considered satisfactory by 38



percent of the drivers but unsatisfactory by 33 percent, a higher unsatisfactory rating eleven other attributes. Among those who found trucking to be rewarding overall, 44 percent found salary and benefits satisfactory, but 56 percent rated them unsatisfactory or Conversely, 96 percent of those who were satisfied with the salary and benefits found the job to be rewarding overall, while 74 percent of those who were less than satisfied found it The drivers' expectations to be rewarding. driving in five years were found to be independent of their level of satisfaction with salary and benefits but their apparent loyalty to their employers did. Among those who found salary and benefits satisfactory, fully 95 percent expected to be driving for the same employer in five years, but only 63 percent of the remaining drivers had this expectation.

Weigh stations - Similar in nature to law enforcement, weigh stations also appeared in mid-range in drivers' job attribute ratings, but lower in satisfaction. Full-time drivers were more accepting: 46 percent of the full-time drivers expressed satisfaction with weigh station requirements, compared with 17 percent of the owner-operators.

Company policies - Although firms were encouraged by Dressner (1991) to keep drivers "informed of goals and policies . . . (and) remind the driver he is part of the corporate family," the driver survey results indicate that company policies were next to the lowest in terms of satisfactory ratings and received the second greatest number of neutral ratings. This hygiene factor also was a predictor employment stability (with group differences statistically significant at the .01 level), with 95 percent of the satisfied drivers, vs. 64 percent of the remaining drivers, saying they expected to be with the same company in five years. Education level also produced differences (significant at the .10 level): drivers who did not attend college were more than twice as likely (49 percent) to express satisfaction with company policies than were drivers with some college background (24 percent).

Fatigue - Schulz (1991d) cited statistics showing fatigue as a major cause of truck accidents, far more than mechanical mishaps. Solutions range from naps (Berg, 1991b) to changing the hours-of-service rules (Schulz, 1991f), two-way voice communications with dispatchers (Transport Topics, 1991) and fatigue

testing devices (Schulz, 1991d). satisfactory or neutral for a majority of the respondents, fatigue ranked third in the number of unsatisfactory ratings. Fatigue was not independent of the likelihood of driving in five years: nearly 88 percent of the drivers rating the fatigue factor as satisfactory planned to be driving in five years as opposed to 62 percent of those rating it neutral or unsatisfactory. Fatigue ratings also varied by whether or not the drivers had attended truck driving school. Nearly all (92 percent) of the drivers giving fatigue satisfactory ratings had not attended truck driving school. Also, while 13 percent of the attenders rated fatigue satisfactory, 48 percent of the non-attenders gave it satisfactory ratings. It is possible that the driving school students have been made more aware of fatigue and are reflecting the seriousness of this factor. Or, perhaps those who considered themselves to be "naturals" for this profession were more likely to be satisfied with a less comfortable aspect of the job than were those who may have been recruited for a training course.

Overall measures - Churchill (1987, pp. 329-330) suggests that the individual satisfaction scores be summed to provide an overall score. The statement scores are then individually correlated with the total. The resulting correlation coefficients are ranked to indicate which statements are the better attitude indicators and which could be eliminated from future instruments. Figure 5, a display of these coefficients, shows that recognition, company policies, opportunities for advancement, and working conditions are most highly correlated to the overall satisfaction scores. **Employers** should note that recognition and advancement were the two motivators with the lowest satisfaction ratings. Among the two hygiene factors that are the best predictors of drivers' overall scores, working conditions rated third in satisfaction but company policies rated next to There are apparently three areas important in their contributions to drivers' satisfaction but in need of attention.

The weakest correlations with the overall satisfaction score are from four hygiene factors: weigh stations, time away from home, peers, and law enforcement. Interestingly, drivers expressed very high satisfaction with their co-workers but peer relations is not a good predictor of driver satisfaction, possibly since they perform their work largely independent of



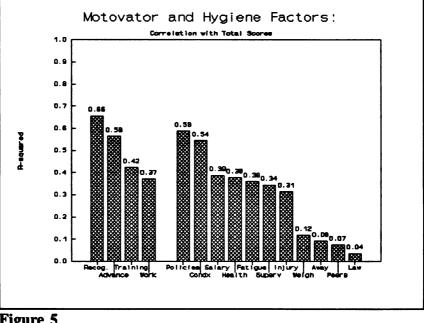


Figure 5

Time away from home, a factor generally rated satisfactory, was also not an indicator of overall satisfaction. Weigh stations and law enforcement, with scores nearly neutral in satisfaction, are accepted by the drivers but do not influence their overall job satisfaction.

CONCLUSIONS AND IMPLICATIONS

study demonstrated application Herzberg's motivation-hygiene theory to a state-wide sample of truck drivers. Unlike earlier work which ranked job factors by their importance to drivers, measurements of satisfaction were obtained. The data suggest that the work of driving a truck is considered a experience the satisfactory by More than one-half the Iowalicensed truck drivers responding rated the work itself, co-workers, supervision, working conditions and time away from home as at least satisfactory. Of these, only the work itself is a motivating factor; the others are hygiene factors. research might identify specific attributes, such as the equipment, degrees of control and freedom from direct supervision, that contribute to this general satisfaction with trucking.

Drivers' lack of satisfaction with other factors affects their expectations about the They anticipate changing employers (something they may control virtually overnight) more often than type of employment (which would require a longer training period). Dissatisfaction with recognition and advancement, two of four motivators in the list, and company policies may be alarming to employers because these were factors highly correlated with drivers' overall satisfaction scores. However, these factors also are within the influence of the employer through personnel programs, scheduling, wage and benefits packages, and intra-firm communications.

In conclusion, the findings of the survey show that drivers are generally satisfied with their jobs; they enjoy the work that they do. To the extent that the findings of this survey are representative of how other drivers feel, it appears that the shortage of truck drivers is not due to drivers disliking their jobs. Over 70 percent of respondents indicated that they planned to be driving within the next five years. With increased understanding of what drivers find satisfactory and unsatisfactory about their jobs, employers will be better prepared to improve the occupation, thus retaining their current drivers and more effectively recruiting new drivers.

REFERENCES

- Ajzen, Icek, and Fishbein, Martin, Understanding Attitudes and Predicting Social Behavior. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1980.
- Bearth, Daniel P., "M.S. Carriers raises driver pay," *Transport Topics* (September 3, 1990): 2.
- Beilock, Richard, and Capelle, Russell B., Jr.,
 "Occupational loyalties among truck
 drivers," *Transportation Journal* 29
 (Spring, 1990): 20-28.
- Berg, Tom, "Truck drivers' back injuries get 'aggressive' attention," *Transport Topics* (April 29, 1991): 13.
- Berg, Tom, "Old-fashioned remedy for fatigue,"

 Transport Topics (November 4, 1991):

 18.
- Churchill, Gilbert A., Jr., Marketing Research: Methodological Foundations, Chicago: Dryden Press, 1987.
- Cooke, J. A., "Women, minorities seen ending driver shortage," Traffic Management 28 (February, 1989): 17.
- Corsi, Thomas M., and Fanara, Philip, Jr.,
 "Driver management policies and
 motor carrier safety," Logistics and
 Transportation Review 24: 153-163.
- Deierlein, Robert, "Safety boosts the bottom line," *Beverage World* 108 (May, 1989): 58-62.
- Delaney, Robert V., "Recruiting minorities called step forward for trucking industry," (Letter) Traffic World (August 5, 1991): 49.
- Dressner, Richard D., "Driver management,"

 Private Carrier 28 (May, 1991): 18-19.

- Distribution, "Are low wages a factor in truck accidents?" 89 (September, 1990): 18.
- Eddy, Art, "Driver shortage solution: improve wages, conditions," *Transportation & Distribution* 29 (July, 1988): 2.
- Estes, Donald W., "Improving driver training and the quality of life," *Transportation* & *Distribution* 29 (May, 1988): 55.
- Freymiller, Don H., "TL carriers target driver shortage," *Traffic World* 223 (July 30, 1990): 37-44.
- Gallagher, Jack, "The new economics of trucking," Purchasing 104 (March 31, 1988): 56-57.
- Gilroy, Roger, "What drivers want," Transport Topics (September 9, 1991): 11.
- Gilroy, Roger, "Wooing and winning drivers No. 1 priority for truckload carriers," Transport Topics (March 30, 1992): 21-22.
- Handling & Shipping Management, "Carriers improve driver training and evaluation" 26 (October, 1985): 22.
- Hanley, Robert P., "The driver shortage,"

 Private Carrier 27 (November, 1990): 8,
 10.
- Herzberg, Frederick, Work and the Nature of Man, Cleveland: World Publishing Co., 1966.
- Herzberg, Frederick, "One more time: How do you motivate employees?" Harvard Business Review 46 (January-February, 1968): 53-62.
- Herzberg, Frederick, "Retrospective commentary," Harvard Business Review 65 (September-October, 1987): 118-120.
- Herzberg, Frederick, Mausner, Bernard, and Snyderman, Barbara Bloch, *The Motivation to Work*, New York: John Wiley & Sons, Inc., 1959.



- Jurgensen, Clifford E., "Job Preferences (What Makes a Job Good or Bad?)," Journal of Applied Psychology 63 (No. 3): 267-276.
- Kanungo, Rabindra N., and Hartwick, Jon, "An Alternative to the Intrinsic-Extrinsic Dichotomy of Work Rewards," *Journal of Management* 13 (No. 4): 751-766.
- Kovach, Kenneth A., "What Motivates Employees? Workers and Supervisors Give Different Answers," Business Horizons, September-October, 1987: 60-65.
- Lamal, P. A., "On the Importance of Replication," Journal of Social Behavior and Personality 5 (No. 4): 31-35.
- LeMay, Stephen A., and Taylor, G. Stephen,
 "Truck driver recruitment: Some
 workable strategies," *Transportation*Journal 28 (Fall, 1988): 15-22.
- McNamara, Jim, "Federal aid for driver literacy," *Transport Topics* (April 1, 1991): 1-26.
- McNamara, Jim, "Uncle Sam wants his truck drivers to work for you," *Transport Topics* (May 6, 1991): 8.
- Neuliep, James W., and Crandall, Rick, "Editorial Bias Against Replication Research," *Journal of Social Behavior* and Personality 5 (No. 4): 85-90.
- Norusis, Marija J., SPSS/PC+ Studentware, Chicago: SPSS Inc., 1988.
- Oskroba, Michael, "As motor freight accelerates, truck drivers pay the toll,"

 Inbound Logistics 8 (November, 1988):
 39-40.
- Private Carrier, "Driver Hall Of Fame" 28, (May, 1991): 5-6.
- Private Carrier, "Drivers: Hiring and keeping the best," 28 (May, 1991): 16-17.

- Quinn, Francis J., "Driver shortage calls for new thinking," *Traffic Management* 29 (June, 1990): 7.
- Rakowski, James P., Southern, R. Neil, and Godwin, Lynn R., "Recruiting and the truck driver shortage: Is the industry reactive or proactive?", Transportation Practitioners Journal 28: 381-392.
- Richardson, Helen L., "Vanishing human resources," Transportation & Distribution 30 (November 1989): 18-20.
- Rodriguez, Julene M., and Griffin, Gene C.,
 "The determinants of job satisfaction of
 professional drivers," Journal of the
 Transportation Research Forum 30 (No.
 2): 453-464.
- Rodriguez, Julia, and Griffin, Gene, "Driver satisfaction," Private Carrier 28 (November, 1991): 4-8.
- Schulz, John D, "Calif. truckers hope positive record on race, safety will offset pollution limits," *Traffic World* (February 11, 1991): 21-22.
- Schulz, John D., "Truckers look to returning troops as partial solution to driver crisis," Traffic World (March 25, 1991): 24-25.
- Schulz, John D., "Survey identifies reasons for high driver turnover," Traffic World (March 25, 1991): 25-26.
- Schulz, John D., "Computer test flags tired truckers before they fall asleep at the wheel," Traffic World (April 1, 1991): 28-30.
- Schulz, John D., "Industry, Army join in bid to draw ex-military drivers to trucking jobs," *Traffic World* (August 26, 1991): 31.
- Schulz, John D., "Hours-of-service rules need change fatigue expert tells truckers group," *Traffic World* (October 28, 1991): 16.



- Southern, R. Neil, Rakowski, James P., and Godwin, Lynn R., "Motor carrier road driver recruitment in a time of shortages," *Transportation Journal* 28 (Summer, 1989): 42-48.
- Stelluto, George L., and Klein, Deborah P., "Pay and benefits," *Private Carrier* 27 (November, 1990): 12-17.
- Strauss, George, "Job Satisfaction, Motivation, and Job Redesign," in Strauss, George, Miles, Raymond E., Snow, Charles C., and Tannenbaum, Arnold S. (eds.), Organizational Behavior: Research and Issues, Madison, Wis.: Industrial Relations Research Association: 19-49, 1974.
- Taber, Tom D., and Taylor, Elisabeth, "A Review and Evaluation of the Psychometric Properties of the Job Diagnostic Survey," Personnel Psychology 43: 467-500.
- Tang, Thomas Li-Ping, Tollison, Peggy Smith, and Whiteside, Harold D., "Quality Circle Productivity as Related to Upper-Management Attendance, Circle Initiation, and Collar Color," Journal of Management 15: 101-113.
- Taylor, G. Stephen, and LeMay, Stephen A., "A causal relationship between recruiting techniques and driver turnover in the truckload sector," *Transportation Practitioners Journal* 59 (Fall, 1991): 56-66.
- Traffic Management, "Shortage prompts look at under-21 drivers," 28 (November, 1989): 22-23.
- Traffic Management, "Training, technology may ease pain of CDL exams," 27 (September, 1990): 18.
- Transport Topics, "Tenn. legislator charged with shooting at trucker," (October 15, 1990): 16.
- Transport Topics, "Motorola helps support driver fatigue research," (April 8, 1991).

- Traffic World, "UPS adds \$1,000 bonus, other fringes to contract," (July 16, 1990).
- Vial, Paul, "Incentives motivate better than cash," *Iowa Trucking Lifeliner* 63 (May, 1991): 23.
- Wanous, John P., "Installing a realistic job preview: Ten tough choices," Personnel Psychology 42:117-133.
- Weekly Commercial News, "National driver shortage causing carriers to seek new worker laws," 80 (April 22, 1991): 4.
- Wilson, Linda J., "How to fill the shrinking chemical truckers pool," Chemical Week 143 (August 3, 1988): 45-46.
- Wiseman, Tim, "Driver Training," Private Carrier 28 (April, 1991): 32-36.

ENDNOTES

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