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Which work factors determine job satisfaction?

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Abstract. *Background:* Job satisfaction is associated with mental health. Employees could be counselled on how they feel about their work. If specific aspects of their job are causing particular dissatisfaction, they could be assisted to appropriately change these aspects.

Objective: There is no ‘gold standard’ indicating the aspects that should be taken into account when job satisfaction is measured. This study investigated which work factors determine job satisfaction.

Method: A self-report questionnaire was sent to a random sample of 822 out of 1908 active employees. The questionnaire examined overall job satisfaction as well as satisfaction with specific work aspects using valid single-item measures.

Results: The response rate was 63%. Overall job satisfaction was 5.3 ± 1.3 on a Likert-scale ranging from 1 (strongly disagree) to 7 (strongly agree). The work factors explained 54% of the variance in job satisfaction. Specific satisfaction with task variety, colleagues, working conditions, and workload were positively related to overall job satisfaction, as were career perspectives and job autonomy.

Conclusion: Task variety, working conditions, workload, and career perspectives determine the greater part of job satisfaction. An instrument including these factors would provide beneficial information beyond current measures of job satisfaction.

Keywords: Overall job satisfaction, specific job satisfaction, job satisfaction instruments, content of job satisfaction

1. Introduction

Job satisfaction is a multidimensional concept featuring personality traits and environmental factors. A proportion of up to 45% of the variance in job satisfaction has been accounted for by personality [11]. The relations between job satisfaction and both neuroticism and extraversion were found to be generalized across studies [13]. Personality dispositions, though, cannot be influenced by managers. Organizational conditions were also recognized as predictors of job sat-

isfaction [1]. The relationship between work aspects and job satisfaction is important for occupational health practice, because working conditions can be managed. This is reinforced by a recent report of Faragher, Cass and Cooper [9] in which job dissatisfaction was related to mental health problems. They found strong relationships between job dissatisfaction and burnout. Job dissatisfaction was less strongly related to other mental health problems such as depression, anxiety and low self-esteem.

Before it is possible to investigate how employees feel about their work, a questionnaire screening for job satisfaction should be composed of work-related factors that determine job satisfaction. Many factors such as task autonomy, task identity (professional status), task variety, salary, feedback, promotional opportuni-

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ties, praise by supervisors, cohesion with colleagues, collaboration with the staff, working conditions, and strength of the organizational culture have been associated with job satisfaction [17]. Several types of instruments have been used in job satisfaction research, for example global instruments and multidimensional instruments for jobs in general or a specific workforce. The psychometric characteristics of different job satisfaction instruments were reviewed by Van Saane, Sluiter, Verbeek and Frings-Dresen [25]. The most frequently used job satisfaction instrument is the Job Descriptive Index [15]. However, Van Saane et al. [25] reported that its reliability and construct validity did not meet the quality criteria. Seven job satisfaction instruments had adequate psychometric characteristics. Two of these instruments measured overall job satisfaction and were not suitable to screen for the various facets of satisfaction. Four instruments were designed for specific jobs, especially nurses. The Job Satisfaction Survey (JSS) was originally developed for the social service sector [27], but can be used in other sectors as well. It is a multidimensional instrument that includes nine subscales: salary, promotion, supervision, fringe benefits, contingent rewards, operating procedures, co-workers, work and communication. The JSS does not cover personal growth/development (opportunities for education and training at work) and job autonomy, factors that were mentioned by Van Saane et al. [25] as standard work factors.

The conceptual foundation of job satisfaction has received little attention in literature. There is no 'gold standard' that indicates which aspects should be taken into account when job satisfaction is measured. This study examined which work aspects contributed most importantly to job satisfaction. We defined job satisfaction as the positive emotional reactions and attitudes individuals have towards their job. Job satisfaction can be regarded as a global concept, but it can also be considered as being composed of facets of satisfaction with various aspects of a job [21]. Facet measures of job satisfaction should be separated from overall satisfaction, as they are conceptually different [24]. Employees may be very satisfied with many aspects of their job but overall still feel dissatisfied. We related facet measures of satisfaction to overall job satisfaction in order to study their contribution to its variance.

2. Method

The study population was a sample of 822 active workers (550 men, and 272 women), drawn using ran-

dom number tables, from a population of 1908 employees working in the companies associated with our regional Occupational Health Department in the Dutch province Friesland. As job satisfaction was assumed to vary considerably between individuals [24], we preferred a heterogenous sample rather than recruiting workers from one company. We used previously designed [20] self-report questionnaires (see appendix). The study had a cross-sectional design, which is suitable to investigate correlations, but precludes conclusions on causality. According to Dutch law, approval from a medical ethics board was not required for this questionnaire survey. All workers agreed to use their data for scientific research and to report the results on group level.

Overall job satisfaction was measured with a single-item measure on a seven-point Likert-scale, ranging from 1 (strongly disagree) to 7 (strongly agree). It is difficult to determine the reliability of a single-item measure. The internal consistency of the item measuring satisfaction with one's job as a whole, is estimated between $r_{xx} = 0.73$ and $r_{xx} = 0.90$ [7]. Its concurrent validity is $\alpha = 0.92$ relative to the JSS, and the construct validity is $\alpha = 0.91$ relative to measures of positive (convergent validity) and negative (divergent validity) affect [31].

Searching for studies reporting on work-related factors that were relevant in relation to job satisfaction, Van Saane et al. [25] identified 11 factors: work content (particularly variety in skills and complexity of a job), autonomy, growth/development (training or education), financial rewards, promotion (career advancement), supervision, communication, co-workers, meaningfulness, workload and work demands. Derived from these factors, we measured satisfaction with workload, work pace, task variety, working conditions, work times, salary, supervisor, colleagues, and work briefings on a seven-point Likert-scale, ranging from 1 (strongly disagree) to 7 (strongly agree). We also measured career perspectives, job autonomy, and decision latitude on seven-point Likert-scales (see Appendix).

The data were analyzed using SPSS for Windows, version 13. Although a discrete variable, the normal distribution of job satisfaction made us choose a multivariate regression analysis to investigate its correlations. We controlled for age (in years), gender (nominal variable with value 0 = women and 1 = men) and educational level (1 = none or primary education, 2 = secondary education, 3 = tertiary education); the educational level was recoded into two dummy variables relative to tertiary education. Based on previous liter-

Table 1
The correlation between overall job satisfaction and specific job aspects

	Mean (SD)	B (SE)	β
Age (years)	38.1 (10.3)	0.01 (0.00)	0.05
Gender (female = 0, male = 1)		-0.11 (0.09)	-0.04
Educational level	1.7 (0.7)		
Primary education relative to tertiary	0.15 (0.14)	0.06	
Secondary education relative to tertiary	0.18 (0.13)	0.07	
Physical demands (range 1-7)	4.0 (1.9)	0.02 (0.02)	0.03
Psychological demands (range 1-7)	4.1 (1.7)	-0.04 (0.03)	-0.05
Job autonomy (range 1-7)	5.4 (1.4)	0.09 (0.04)	0.09*
Decision latitude (range 1-7)	4.8 (1.7)	-0.01 (0.03)	-0.02
Career perspectives (range 1-7)	4.2 (1.7)	0.12 (0.04)	0.16**
Overall satisfaction (range 1-7)	5.3 (1.3)		
Specific satisfaction (range 1-7) with:			
Colleagues	5.6 (1.2)	0.15 (0.04)	0.14**
Work times	5.5 (1.4)	-0.02 (0.04)	-0.03
Task variety	5.1 (1.5)	0.28 (0.04)	0.31**
Supervisor	4.7 (1.7)	0.06 (0.04)	0.07
Working conditions	4.7 (1.5)	0.11 (0.04)	0.13**
Workload	4.7 (1.4)	0.11 (0.05)	0.12*
Work pace	4.7 (1.5)	0.02 (0.04)	0.02
Salary	4.3 (1.6)	-0.05 (0.03)	-0.06
Work briefings	4.3 (1.8)	-0.01 (0.04)	-0.02

Mean (standard deviation, SD) of age, educational level, the work-related factors and satisfaction. The table also shows the correlation with overall satisfaction presenting the unstandardized correlation coefficients B (standard error, SE) and the standardized correlation coefficients (β) which are a measure for the type (positive or negative) and the relative importance of correlation; * $p < 0.05$ and ** $p < 0.01$.

ature [17,25], we also controlled for confounding by self-reported physical and psychological job demands which were measured on seven-point Likert-scales. Statistical significance was concluded for $p < 0.05$.

3. Results

The response rate was 63% which is normal for a mail survey [2]. Non-responder analysis showed that 213 men (mean age 34.1 ± 10.4 years) and 94 women (mean age 36.4 ± 10.3 years) did not return their questionnaire. An a-select sample of 42 non-responders reported a mean job satisfaction level of 5.5 ± 1.0 on secondary inquiry. This was not different (t-test for equality of means: $t = 0.42$; $p = 0.28$) from the responders whose overall satisfaction level was 5.3 ± 1.3 .

Of the returned questionnaires, 6 were excluded because they were not complete. The results of 509 questionnaires were suitable for statistical analysis: 331 were completed by men (mean age 39.4 ± 10.1 years) and 178 by women (mean age 35.7 ± 10.1 years). We found no differences ($t = 3.98$; $p = 0.55$) between the job satisfaction scores of men (5.3 ± 1.3) and women (5.3 ± 1.3). Workers were most satisfied with their colleagues, work times and task variety as is shown in Table 1.

The goodness of fit statistics were: $R^2_{\text{unadjusted}} = 0.56$; $F = 34.12$; $p < 0.001$, meaning that the regression model significantly explained job satisfaction. In fact, the investigated factors explained 54% ($R^2_{\text{adjusted}} = 0.54$) of the variance in job satisfaction. Satisfaction with colleagues, task variety, and working conditions were significantly ($p < 0.01$) related to overall job satisfaction, as were career perspectives ($p < 0.01$), satisfaction with workload ($p = 0.02$), and job autonomy ($p = 0.03$). Satisfaction with task variety had the highest correlation coefficient ($\beta = 0.31$), showing it to be the strongest correlate of overall job satisfaction. Task variety was particularly interrelated to career perspectives, working conditions, and workload (Table 2). Factor analysis showed these items to load on a common underlying factor, explaining 47% of the variance in job satisfaction.

Satisfaction with colleagues and job autonomy contributed less to the explanation of job satisfaction.

4. Discussion

The overall satisfaction level was 5.3 ± 1.3 , which was in line with the results of Dolbier et al. [7] who reported an overall job satisfaction of 5.3 ± 1.2 among

Table 2

Interrelations between the factors significantly related to job satisfaction

	2	3	4	5	6
1 task variety	0.61**	0.56**	0.50**	0.39**	0.46**
2 career perspectives		0.56**	0.43**	0.36**	0.38**
3 working conditions			0.54**	0.43**	0.45**
4 workload				0.40**	0.38**
5 colleagues					0.32**
6 job autonomy					

The table shows the Pearson's moment correlation coefficients of the independent factors that were related significantly to overall satisfaction;

**is significant at the 0.01 level (2-tailed).

745 public agency employees. The work factors we investigated explained 54% of the variance in job satisfaction. Its most important determinant was task variety. Chaboyer et al. [5] concluded that job variety was one of the strongest predictors of satisfaction in a survey of 135 nurses. Brown et al. [4] reported opportunities for creativity to enhance meaningfulness and satisfaction. We found satisfaction with task variety to be particularly interrelated to career perspectives, satisfaction with working conditions, and (to a lesser extent) to workload. This enables managers to influence the feeling of satisfaction by adjusting these job aspects. Robertson and Yueng-Hsiang [23] reported that satisfaction with workstation layout had a significant relationship with individual performance, group collaboration and effectiveness. An individual approach is necessary, because the fit between person and work environment plays an important role in the feeling of satisfaction [24,29].

Many people spend a considerable period of time at work. If their work is failing to provide satisfaction, they are likely to feel unhappy or unfulfilled for most of the day, resulting in poor general mood and decreased feelings of self-worth. Faragher et al. [9] found a strong relation between dissatisfaction and burnout ($r = 0.41$): only 5 of 62 studies failed to reach statistical significance. This confirms that employees with low levels of satisfaction are at risk of emotional exhaustion. Screening employees on how they feel about their work might prove to be a useful preventive strategy. Dissatisfied employees could be assisted to appropriately change the work aspects causing particular dissatisfaction, herewith preventing (long-term) absenteeism and disability due to mental disorders.

Van Saane et al. [25] reported that 7 out of 29 instruments for measuring job satisfaction met the quality criteria for reliability (internal consistency coefficient of at least 0.80 and a test-retest coefficient of 0.70 or higher) and validity (convergent validity of at least

0.50 and a discriminant validity of 0.50 or less). The Emergency Physician Job Satisfaction Scale [16], the McCloskey/Mueller Satisfaction Scale [18], the Nurse Satisfaction Scale [19] and the Measurement of Job Satisfaction [30] were designed for specific jobs, and were not suitable for jobs in general. The Andrew and Withey Satisfaction Questionnaire and the Job in General Scale (JIG) measured overall job satisfaction and were not suitable to screen for the various facets of satisfaction.

The multidimensional Job Satisfaction Survey (JSS) covers 9 subscales. However, items on personal growth, educational opportunities and training at work are missing, as well as job autonomy. Our results showed that educational opportunities at work contributed essentially to the feeling of satisfaction. Possibly, personal growth and training are more valued nowadays than previously, and must be included in a job satisfaction instrument. The results of our study confirmed the relation between job autonomy and satisfaction [6,26]. However, job autonomy contributed little to the explanation of job satisfaction. This raises the question whether it is necessary to cover job autonomy in an instrument that measures job satisfaction. Finn [10] reported autonomy to be the most important component for satisfaction among 178 nurses; however, task variety was part of Finn's job autonomy component, which might explain the strong correlation they found.

Satisfaction with colleagues was related to overall satisfaction, which affirms earlier literature findings [8, 14,26]. Satisfaction with colleagues, however, is a less important determinant of job satisfaction. This is in line with the findings of Chaboyer et al. [5] who reported cohesion amongst nurses to be correlated moderately with satisfaction. However, the results are in contrast with Bond, Punnet, Pyle, Cazeca and Cooperman [3] who found social support to be the strongest correlate of job satisfaction. They studied both affective and instrumental support at work and combined it with the employees' sense of community. We measured how workers felt about their colleagues and supervisor. Satisfaction with the supervisor did not contribute to job satisfaction in our study population.

Questionnaire results are often qualified as 'subjective', because the responses may be colored by how someone feels. This was, however, just what we wanted to measure: how someone feels about one's job. Although the overall satisfaction was not different among non-responders, it is possible that persons who are dissatisfied with particular aspects of their job are less in-

clined to return their questionnaire, herewith biasing our results. Young men were overrepresented among the non-responders. This will not have biased our results, because age and gender were not related to job satisfaction. The results, however, suffer from the regional character of our survey, being limited to the Dutch province Friesland. It is likely that job attitudes and satisfaction perceptions differ considerably between cultures. Therefore, we advise to analyse job satisfaction on company level and identify those facets of current work practices that are causing dissatisfaction.

A new questionnaire screening for job satisfaction is required. It should include questions on task variety, career perspectives, working conditions and workload as these factors explain the greater part of job satisfaction. Dissatisfied workers should be counselled to investigate if factors causing dissatisfaction can be adjusted to their personal need. If not, organizations must accept greater responsibilities for the impact of their work practices on employee health. Workplace policies must be aimed at eradicating work practices that cause most dissatisfaction among their personnel. Employers must be encouraged to develop meaningful work environments for increased job satisfaction, greater motivation, increased productivity, and decreased employee turnover [4]. Future longitudinal research should investigate the preventive effects of counselling dissatisfied workers to enhance their job satisfaction [28].

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Appendix

Questionnaire used in this study	strongly disagree	1	2	3	4	5	6	7	strongly agree
1. Overall, I am satisfied with my current job		1	2	3	4	5	6	7	
2. I am satisfied with the time to complete my work		1	2	3	4	5	6	7	
3. I am satisfied with the amount of work I have to do		1	2	3	4	5	6	7	
4. I am satisfied with the variation of work tasks		1	2	3	4	5	6	7	
5. I am satisfied with my working conditions		1	2	3	4	5	6	7	
6. I am satisfied with my work times		1	2	3	4	5	6	7	
7. I am satisfied with my salary		1	2	3	4	5	6	7	
8. I am satisfied with my supervisor		1	2	3	4	5	6	7	
9. I am satisfied with my colleagues		1	2	3	4	5	6	7	
10. I am satisfied with the briefings about my job		1	2	3	4	5	6	7	
11. My work is physically demanding		1	2	3	4	5	6	7	
12. My work is mentally demanding		1	2	3	4	5	6	7	
13. I can determine how I do my work		1	2	3	4	5	6	7	
14. I can take part in decisions concerning my work		1	2	3	4	5	6	7	
15. Education and training in my job improve my career perspectives		1	2	3	4	5	6	7	