

Type A and Type B Behaviors and Factors Related to Job Satisfaction among Male White-Collar Workers

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Abstract

Numerous studies have examined the health effects of Type A behavior and job satisfaction/dissatisfaction, but we know very little about the relationship between aspects of the work environment related to job satisfaction and the Type A behavior pattern. In the present study, we analyzed data concerning work stressors, private aspects of life, and job satisfaction among male white-collar workers (n=657) in a large steel company, and identified the respective aspects of the work environment related to job satisfaction among groups divided by Type A/B behavior patterns.

We found that the nature of predictors for job satisfaction varied with the behavior type. "Being not busy at work" (p<0.001) and "working more than 10 hours per day" (p<0.05) were significant predictors of job satisfaction among the Type A workers while "working less than 10 hours per day" (p<0.05) and "can learn new things at work" (p<0.01) were significant predictors of job satisfaction among the Type B workers. "Work performance is evaluated" was a significant predictor of job satisfaction among all three behavior types (A, B, and A/B).

Our results can provide information useful for the creation of programs to lower the level of job dissatisfaction and mental stress depending upon the behavior type of employees.

Key words: Type A behavior, Job satisfaction, White-collar workers

Introduction

The term "job satisfaction" is generally held to indicate a subject's feeling of being satisfied with his or her job. A relationship between job satisfaction/dissatisfaction and various types of health problems such as hypertension, coronary heart diseases, longevity, and absenteeism has been reported in health literature. A relationship between job satisfaction and blood pressure change has been described among young males¹⁾, and blue collar workers.²⁻⁴⁾ Sales and House reported that job satisfaction is a strong correlate of coronary heart disease.⁵⁾ Palmore reported that job satisfaction has been a predictor of longevity over thirteen years.^{6,7)} A significant relationship between job dissatisfaction and increased absenteeism has also been reported.^{8,9)} In addition, not a few studies have investigated the sources and antecedents of job

dissatisfaction. Specifically, researchers have established that job satisfaction is significantly associated with general health indices,^{10, 11)} several personality variables, including locus of control,¹²⁾ neuroticism¹³⁾ and positive and negative affectivity,¹⁴⁾ age,¹⁵⁾ and job characteristics such as skill variety, task autonomy, task significance, autonomy, and job feedback.¹⁶⁾

As a risk factor for premature coronary heart disease, considerable attention has also been given to the Type A behavior pattern. The Type A personality is characterized by impatience, a chronic sense of time urgency, enhanced competitiveness, aggressive drive, and often some hostility.^{17, 18)} The Type B personality lacks these Type A characteristics. Individuals with a Type A personality have been shown to report more work stressors and strain than individuals with the Type B personality. Specifically, Type A individuals report more psychic complaints and responsibility for people,¹⁹⁾ higher levels of quantitative workload and more overtime worked per day,¹⁹⁻²¹⁾ and higher diastolic blood pressure.¹⁹⁾ They also report a higher incidence of stressful events²²⁾ and recent life changes,²³⁾ and are more likely than Type Bs to evaluate their jobs as stressful.²⁴⁾

Although Type As see their working environments and per-

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ceive their mental or physical health status differently than Type Bs do,¹⁹⁻²⁴ very little is known about what aspects of the working environment are related to the job dissatisfaction of the Type As and Bs, or how different they interpret the work environment.²⁵ Therefore, in the present study, we conducted a cross-sectional study among Japanese white-collar workers and examined how predictors of job satisfaction vary with Type A or Type B behavior patterns. Since it has been implied that the Type A personality and job satisfaction are predictors of occupational stress and various health problems,²⁶⁻²⁹ the results of this study can provide information potentially useful for the creation of improved working conditions and more effective stress management programs that can reduce the level of job dissatisfaction.²⁴⁻³⁰

Methods

Subjects

This survey was conducted as part of a larger occupational health study. The subjects were male white-collar workers who were working at the head office of a large steel company in Osaka, Japan. During their annual health check-up (July, 1995), relevant data were collected from 657 (95.8%) of all of the head office's male employees between 20 and 60 years of age ($n=686$). The mean and standard deviation (SD) of the age of the subjects were 41.97 yr. and 9.21 yr., respectively. About eighty percent of the subjects were married, and about sixty percent of the subjects occupied managerial posts. Since the subjects were male white-collar workers at the head office of the company, all of them were engaged in administrative types of work.

Type A personality and variables concerning working environment

For the present study, self-administered questionnaires which were not anonymous were sent to the subjects by occupational health nurses two weeks before the scheduled health check-up with a preface assuring them that their replies would be utilized solely for health care purposes. The questionnaires were collected on the day of the health check-up. In addition, to confirm that the questionnaires were appropriately answered, those receiving the questionnaires were instructed to have them checked by the medical staff. The questionnaires consist of questions 1) to assess the subject's personality (Type A/B), 2) concerning the subject's private aspects of life, and 3) concerning the subject's work environment and job satisfaction.

Type A personality was measured using a seven-item scale (items for hurry sickness, quest for numbers, sense of time urgency, hostility, persistency, hard-driving nature and work involvement) devised by Munakata.³¹ This index defines the Type A individual as competitive, feeling a sense of time urgency, persistent, hard-driving, involved in work activities and achievement-oriented. The characteristics outlining the Type A personality were originally presented by Rosenman et al.,³² and Friedman and Rosenman.¹⁷ Based upon the items depicting the Type A personality which were presented by Friedman and Rosenman, Munakata devised the Type A scale; its face validity and content validity seem to be assured. This scale was applied to another sample of citizens in Japan by Munakata et al.³³ Cronbach's alpha coefficient for this scale was 0.72, indicating that the scale is acceptable. Each item of this scale had four multiple choice answers ("Agree completely," "Agree," "Do not agree," "Disagree completely"), and scores could range from 7 to 28. Higher scores were indicative of

a Type A personality while lower scores were indicative of a Type B personality. Items concerning the subject's private aspects of life were four items which are thought to be related to job satisfaction (age, marital status, number of family members living together, and hobby).

Based upon the opinions of the head office's occupational health nurses and personnel staff, and the findings in occupational health literature, 13 questions concerning the working environment were selected and covered various aspects of working circumstances (whether busy at work or not, does the work require new knowledge, whether the work requires advanced skills and specialties, can the subject decide the work procedure, whether the work is monotonous, can the subject learn new things at work, is the work role ambiguous, is the subject's work performance evaluated, does a boss attend to the workers' health or not, are colleagues friendly, the number of days of paid annual leave, commuting time, and working time). Except for item number 11, 12, 13 in Table 3, each questionnaire item was a multiple choice question with four possible answers ("Agree completely," "Agree," "Do not agree," "Disagree completely"). An item concerning paid annual leave had three possible answers ("more than once," "once," "zero"). Concerning commuting and working time, respondents were instructed to report the corresponding number. Finally, job satisfaction was also measured with a one-item scale ("Are you satisfied with the present job?") with four possible answers ("Agree completely," "Agree," "Do not agree," "Disagree completely"). We evaluated the validity of this one-item job satisfaction scale in another study.

Data management and analysis

The responses to the questions concerning the subject's private aspects of life, the evaluation of his working circumstances and his job satisfaction were dichotomized into two categories as described in the parentheses of the following description (see Table 3): marital status (married, not married), number of family members living together with the subject (one or more, zero), having a hobby (yes, no), busy at work (yes, no), work requires new knowledge (yes, no), work requires advanced skills and specialties (yes, no), he can decide work procedure (yes, no), monotonous work (yes, no), he can learn new things at work (yes, no), work role (ambiguous, not ambiguous), favorable evaluation of his work performance by management (yes, no), attention to worker's health by boss (yes, no), colleagues (friendly, not friendly), paid annual leave (zero, once or more often), commuting time (≥ 90 min one way, < 90 min one way), and working time (< 10 hours per day, ≥ 10 hours per day). Regarding the manner of living, paid annual leave, commuting time, and working time, we followed the categorization adopted in our previous studies.^{34, 35} The relationship between two variables, such as age and Type A personality, variables concerning the work environment and Type A personality, was analyzed by the chi-square test.

The minimal and maximal Type A scores in these subjects were 8 and 28, respectively, and the mean (\pm SD) and median were 17.55 (± 3.11) and 18, respectively. The purpose of the study was to evaluate how predictors of job satisfaction vary depending upon the existence of the Type A personality. Based upon the Type A score, the subjects were categorized into three groups; "Type B" (score ≤ 16), "Type A/B" (score = 17-19), and "Type A" (score ≥ 20). To evaluate how the predictors of job satisfaction vary with Type A personality, logistic regression analyses whose dependent variable was job satisfaction (yes/no) were performed within the

three groups. In these logistic regression analyses, all variables were entered into a model. The analysis was performed using the LOGIST procedure in the SAS program (Statistical Analysis System) (Cary, NC, USA).³⁶⁾

Results

The prevalence of Type A score by age group is shown in Table 1. There was a significant association between age and Type A personality ($p < 0.05$). Generally, the incidence of Type A was lower among the youngest and oldest of the four age groups used ("20-34yr." and "55-60yr."), and higher among middle age groups ("35-44yr." and "45-54yr.")

Table 1 Prevalence of Type A score by age group (%).

	Personality Type ^a		
	Type B	Type A/B	Type A
20-34yr(n=178)	37.08	39.89	23.03
35-44yr(n=182)	34.07	33.52	32.42
45-54yr(n=245)	29.39	37.55	33.06
55-60yr(n= 52)	42.31	46.15	11.54
Total number 657	222	248	187

$\chi^2 = 15.047$ (df =6), $p < 0.05$

a: Type B(score ≤ 16), Type A/B(score =17-19), Type A(score ≥ 20).

Table 2 shows the prevalence of job satisfaction among groups divided by age and Type A personality. A significant association was observed between Type A personality and job satisfaction only in the "35-44yr." group ($p < 0.05$). In this age group, those with lower Type A scores were more likely to be satisfied with their jobs.

The prevalence of the independent explanatory variables used in this study among groups divided by Type A personality is shown in Table 3. As for the items concerning the subject's private life, the "number of family members living together" and

Table 2 Prevalence of job satisfaction by age group and Type A personality (%).

	Personality Type ^a		
	Type B (n=222)	Type A/B (n=248)	Type A (n=187)
1) 20-34 yr (n=178)	65.15	67.61	60.98
2) 35-44 yr*(n=182)	80.65	77.05	57.63
3) 45-54 yr (n=245)	81.94	77.17	74.07
4) 55-60 yr (n= 52)	72.73	79.17	100.00
5) Total (n=657)	75.56	74.30	67.20

χ^2 test (df=2), * $p < 0.05$

a: Type B (score ≤ 16), Type A/B (score=17-19), Type A(score ≥ 20).

"having a hobby" were related to Type A personality ($p < 0.05$ and $p < 0.001$, respectively). Concerning the subject's work environment, those with higher Type A scores were more likely to report that their job required specialties ($p < 0.05$). "Monotonous work" was also related to the Type A behavior pattern ($p < 0.05$). The Type As most frequently reported that their work was monotonous. Both "Attention to workers' health by boss" and "colleagues" were also related to Type A personality with $p < 0.05$ while "paid annual leave" was related to the Type A personality with $p < 0.01$.

Table 4 shows the results of the logistic regression analyses which identified significant predictors of job satisfaction among the Type B, Type A/B and Type A subjects. The first column of the results lists the odds ratios (ORs) of the variables among the Type B subjects. "Evaluation of work performance," "monotonous work", "can learn new things at work", and "working time" showed significant logistic regression coefficients. Specifically, those who felt that their jobs were monotonous ($p < 0.05$). The next column of the Table shows the predictors of job satisfaction among the Type A/B subjects. "Evaluation of work performance" was the only significant predictor. Those who reported that their work performance was evaluated were 7.62 times more likely to be satisfied with their job that those who thought that their work performance

Table 3 Prevalence of explanatory variables by Type A score (% and number in parentheses).

Category	Personality Type ^a		
	Type B	Type A/B	Type A
1) Items concerning subjects' private aspects of life			
1. Mean age (yr.)	40.77	41.04	41.35
2. Marital status			
married	77.83 (172)	81.45 (202)	81.28 (152)
3. Number of family members living with the subject*			
≥ 1	71.62 (159)	82.26 (204)	76.88 (143)
4. Having hobby***			
yes	77.03 (171)	60.48 (150)	72.73 (136)
2) Items concerning subjects' working environment			
1. Busy at work	73.42 (163)	71.37 (177)	77.54 (145)
2. Work requires new knowledge	73.42 (163)	75.81 (188)	71.12 (133)
3. Work requires specialties*	62.61 (139)	71.37 (177)	72.19 (135)
4. Can decide work procedure	17.12 (38)	13.71 (34)	16.58 (31)
5. Monotonous work*	13.06 (29)	11.29 (28)	21.39 (40)
6. Can learn new things at work	42.79 (95)	35.89 (89)	34.22 (64)
7. Work role	15.77 (35)	17.74 (44)	14.44 (27)
8. Work performance is evaluated	63.96 (142)	67.74 (168)	64.17 (120)
9. Attention to workers' health by boss*			
no	34.23 (76)	31.05 (77)	22.46 (42)
10. Colleagues*	10.81 (24)	4.84 (12)	8.56 (16)
11. Paid annual leave**	50.90 (113)	39.84 (100)	53.51 (101)
12. Commuting time	5.41 (12)	5.65 (14)	4.81 (9)
13. Working time	40.09 (89)	41.94 (104)	51.34 (96)

χ^2 test (df=2) and ANOVA ("Mean age" only), * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

a: Type B (score ≤ 16), Type A/B (score=17-19), Type A (score ≥ 20).

was not evaluated ($p < 0.001$).

The last column of Table 4 lists the significant predictors of job satisfaction among the Type A subjects. "Busy at work," "work requires specialties," "monotonous work," "evaluation of work performance," "attention to workers' health" and "working time" showed significant regression coefficients. Especially, those who felt that their jobs were not monotonous, and those who worked less than 10 hours per day were 0.30 and 0.33 times, respectively, less likely to be satisfied with their jobs than those who felt that their jobs were monotonous or those who worked more than 10 hours per day ($p < 0.05$, respectively).

Discussion

In this study, we examined how predictors of job satisfaction vary depending on the Type A behavior pattern. Based upon the findings concerning how workers with Type A or Type B personality perceive their work environment,¹⁹⁻²⁴ we suspected that the working environment aspects related to job satisfaction would vary with Type A/B behavior. Thus far, however, few findings have been obtained concerning which aspects of the working environment are related to job satisfaction among Type As and Bs.^{24, 25, 30}

There are several major conclusions one could draw from the findings of the present study. Firstly, findings which might be unique to the Type A personality were observed among the Type A

group. Type A workers who are competitive and want to excel at work are believed to exhibit greater reactivity to stressors characterized by challenge, competitiveness, or uncontrollability.³⁷ Consistent with this view, the Type A workers who were not busy at work were 8.10 times more likely to be satisfied with their job than those who were busy ($p < 0.001$) (Table 4).

The Type A workers who worked less than 10 hours per day were less likely to be satisfied with their jobs than those who worked longer. Although this finding is consistent with that of previous studies,¹⁹⁻²¹ this finding seems to be contradictory with the findings concerning the association between being busy at work and job satisfaction. We inferred that being busy at work is a work stressor characterized by uncontrollability, challenge or competitiveness while working longer hours is not an aspect of the work environment which is characterized by uncontrollability and challenge.

Numerous studies have reported the stress-buffering effects of social support.³⁸ Blumenthal et al. reported that the incidence of coronary artery disease was higher among Type As without social support than among Type As with social support, while such a difference in the incidence was not observed among Type B subgroups in either case.³⁹ In the present study, among only the Type A workers, those who felt that their boss paid attention to their health were 4.87 times more likely to be satisfied with their job than those who felt that their boss paid no attention to their health

Table 4 Results of logistic regression analyses of independent variables and job satisfaction.

variables	Type B ^a		Type A/B ^a		Type A ^a	
	OR	95% CI	OR	95% CI	OR	95% CI
Age (yr.) ^b	0.98	0.93-1.04	0.96	0.91-1.00	0.98	0.91-1.05
Marital status						
married/unmarried	0.97	0.22-4.18	1.89	0.45-7.95	0.46	0.08-2.73
Number of family members living with subject $\geq 1/0$	0.40	0.13-1.23	0.76	0.20-2.88	0.95	0.29-3.08
Having hobby						
yes/no	0.89	0.36-2.22	0.45	0.68-3.13	0.99	0.39-2.47
Busy at work						
no/busy	0.92	0.35-2.39	1.60	0.72-3.58	8.10***	2.58-25.45
Work requires new knowledge						
no/yes	1.46	0.57-3.76	0.94	0.36-2.44	1.91	0.69-5.29
Work requires specialties						
yes/no	1.03	0.43-2.47	1.20	0.52-2.79	3.22*	1.20-3.64
Can decide work procedure						
yes/no	0.81	0.30-2.19	0.61	0.22-1.72	1.24	0.34-4.52
Monotonous work						
no/yes	0.32*	0.11-0.95	0.49	0.17-1.41	0.30*	0.11-0.80
Can learn new things at work						
yes/no	3.29**	1.37-7.94	0.81	0.37-1.80	0.96	0.31-2.98
Work role						
ambiguous/not ambiguous	2.25	0.78-6.49	1.51	0.62-3.67	3.27	0.95-11.21
Work performance is evaluated						
yes/no	2.87*	1.18-7.02	7.62***	3.57-16.25	6.62**	2.44-17.99
Attention to workers' health by boss						
yes/no	0.81	0.35-1.88	0.72	0.34-1.52	4.87*	1.35-17.60
Colleagues						
friendly/not friendly	0.92	0.26-3.22	0.37	0.08-1.78	0.80	0.18-3.49
Paid annual leave						
≥ 2 (per year)/1(per year)	0.71	0.32-1.54	0.66	0.32-1.38	0.41	0.16-1.03
Commuting time						
< 90 min/ ≥ 90 min	1.03	0.20-5.52	1.20	0.27-5.27	0.17	0.02-1.43
Working time						
< 10 h/ ≥ 10 h	3.04*	1.26-7.33	1.25	0.56-2.80	0.33*	0.12-0.92

a: Type B (score ≤ 16), Type A/B (score=17-19), Type A (score ≥ 20).

b: Age was entered into the model as a continuous variable.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

OR: odds ration, CI: confidence interval.

(Table 4). The ratio of those who felt that their boss paid no attention to their health was high among the Type B subjects and low among the Type A subjects (Table 3). Although these findings imply that the relation of social support (reassurance by boss) to job satisfaction is conditional upon the Type A personality, further information is needed to conclusively determine the relationship between these variables.

A second major conclusion based on the present findings is that the nature of the predictors for job satisfaction also varied depending upon the group type. Type A workers tend to occupy what Karasek and Theorell called "active jobs" rather than high-strain jobs, while Type B workers tend to occupy "passive jobs" rather than low-strain jobs.^{40, 41} "Active jobs" are defined as jobs which are high in both demand and personal control, and "passive jobs" are jobs which require little and low personal control.⁴¹ Therefore, we suspected that there would be a difference between variables related to job satisfaction among Type A workers and Type B workers. The most striking difference was the association between working time and job satisfaction. Specifically, the association between working time and job satisfaction was opposite between the Type A workers (OR=0.33) and the Type B workers (OR=3.04) (Table 4). Earlier studies have found that Type A workers reported longer hours worked per day than Type Bs did.¹⁹⁻²¹ Since Type As tend to be more deeply involved with their jobs than Type Bs,^{42, 43} it is probable that the longer working hours are more likely to result in the higher level of job satisfaction among the Type A workers than among the Type B workers.

Monotonous work was a significant predictor of job satisfaction among both the Type A and the Type B workers (Table 4). This finding in the present study was contradictory with findings reported in the occupational health literature that monotonous work was a cause of job dissatisfaction.^{44, 45} However, those findings were mainly obtained with respect to blue-collar workers, working conditions which were paced and/or repetitive, and demand for speed; work which requires no skill or over which there is no control are predictors of job dissatisfaction.^{45, 46} The subjects of the present study were male white-collar workers engaged in administrative type of work at the headquarters of a large steel company. Therefore, the work environment evaluated as "monotonous" by the Type A and B workers in the study is thought to be different in nature from the monotonous work mentioned above; a positive association was observed between monotonous work and job satisfaction among both the Type A and B workers. Finally, evaluation of work performance is a significant predictor of job satisfaction

among all three subgroups (Table 4), and this finding is quite understandable.

Thirdly, the number of variables related to job satisfaction varied with the subgroups defined by Type A/B behavior pattern. Six significant predictors of job satisfaction were identified among the Type A subjects and four significant predictors were found among the Type B subjects, while only one significant predictor was found for the Type A/B subjects (Table 4). This result indicates that the relationship between the work environment and job satisfaction (dissatisfaction) was affected by the Type A behavior pattern. Numerous studies have revealed that differences in personality characteristics render some persons relatively immune to stress-induced illness and others relatively susceptible. Personality characteristics as a moderator of the relationship between stress and mental or physical strain have been studied.³⁷ These characteristics are Type A behavior pattern, self-esteem,⁴⁷ health locus of control,⁴⁸ and coping styles.⁴⁹ Consistent with previous findings concerning Type A personality,¹⁹⁻²⁴ the present study also found that the Type A behavior pattern moderated the relationship between the work environment and job dissatisfaction. These results imply the possibility that personal characteristics such as Type A personality is an important factor to be considered in countering job dissatisfaction. However, no significant difference between ORs of variables in the behavior types was shown in this study. Further study is needed to identify such relationship.

The subjects of the present study were white-collar workers. Hence, the findings of this study might be primarily applicable to other white-collar workers only.

Conclusion

We identified aspects of the work environment related to job satisfaction among Type A, A/B, and B workers. (1) The results demonstrated that the aspects of work relating to job satisfaction varied considerably between the Type A and B workers. (2) The results of the present study and previous findings in the literature, taken together, have identified specific aspects of the work environment responsive to job satisfaction for Type A, Type A/B and Type B workers. This information is useful for the creation of programs for increasing job satisfaction. (3) Since the study was based upon cross-sectional data, with respect to several variables, we could not conclusively identify the type of link between these variables and job satisfaction. To confirm the information on factors relating to job satisfaction, further study is necessary.

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(Received Jul. 22, 1997/Accepted Sep. 25, 1997)