

THE IMPACT OF JOB SATISFACTION LEVELS ON THE NUTRITIONAL STATUS OF BLUE AND WHITE-COLLAR EMPLOYEES RECEIVING FOOD SERVICE

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ABSTRACT

This study was carried out to examine the effect of job satisfaction and their nutritional status levels of blue and white collar employees. This study was conducted with 138 adult male employees (69 blue collar-69 white collar) between the ages of 18-64 working in a private company. The survey form of the research consists of a form containing questions to determine the general information and anthropometric measurements of individuals, Job Satisfaction Scale (JSS), Healthy Eating Index-2010 (HEI-2010) and Food Consumption Frequency form. %8,7 of white-collar individuals are obese and %10,1 of blue-collar individuals are obese. A statistically significant difference was observed between the staff status of the individuals and their daily energy intake averages ($p<0.05$). A statistically significant difference was observed between the staff status of the individuals and the daily carbohydrate, protein and fat consumption averages ($p<0.05$). While %59,4 of white-collar individuals experience job satisfaction, %7,2 experience job dissatisfaction. For blue-collar workers, these rates were respectively %46,4 and %2,9. There is no statistically significant difference was observed between the job satisfaction scale scores of the employees and their staff status ($p>0.05$). A statistically significant difference was observed between the slightly obese blue-collar and white-collar individuals and the job satisfaction scale mean score ($p<0.05$). There was no statistically significant difference between diet quality score classification and staff status ($p>0.05$). As a conclusion, it has been determined that white-collar employees have higher job satisfaction levels than blue-collar employees, but there is no significant relationship between these levels and HEI scores.

KEYWORDS: Job satisfaction, nutrition, blue collar, white collar.

INTRODUCTION

Research on job satisfaction has been launched seriously in the early 1930s and has been greatly influenced by the economic crisis of economic and employment crises and by new developments in attitude measurement.^[1] In recent years, attention to job satisfaction has become more closely associated with improved job design and broader approaches to work organization, the quality of work-life movement, and stress and work/life balance.^[2]

Job satisfaction is assumed to be the precursor of outcomes, some of which are associated with employee productivity while others are associated with the health status and well-being of the employee. Within the context of health and well-being, job satisfaction is

associated with burnout, physical and psychological well-being, and life satisfaction.^[3] The level of job satisfaction can act as a predictor of an individual's health and well-being.^[4]

There are various individual factors impacting job satisfaction. These include age, educational status, gender, marital status, and working time.^[5] Hitherto, a vast number of factors affecting job satisfaction at the organizational level have been identified. Job satisfaction factors defined at the organizational level include pay, job characteristics, working conditions, leadership style, promotion opportunities, and co-workers. Organizational job satisfaction factors are organizational elements that shape the work environment and facilitate or prevent

employees from getting what is crucial to them from their jobs.^[6]

There are numerous motivational theories that affect the way organizations manage employees to achieve a motivated workforce. These theories seek to elucidate why people behave the way they do and suggest factors and strategies that, when employed, might get the best outputs from employees, regarding their commitment to work.^[7]

Managers are increasingly realizing the significance of quantifying job satisfaction. The question of how to measure job satisfaction is complicated. An array of job satisfaction measures has been introduced, differing in goal, value, and specificity.^[8] Considering these features, it has been suggested that the choice of job satisfaction measure should be purposeful; however, it is thought that the most helpful one will be obtained by using multi-dimensional, multi-item scales.^[9] Job satisfaction is most commonly measured via self-administered questionnaires. Popular directional metrics include the Job Descriptive Index (JDI), Job Satisfaction Survey (JSS), Minnesota Satisfaction Questionnaire (MSQ), and Job Diagnostic Questionnaire (JDS).

Job satisfaction is assumed to be the precursor of outcomes, some of which are associated with employee productivity while others are associated with the health status and well-being of the employee. Regarding the aspect of efficiency, job satisfaction was associated with job performance, organizational citizenship behavior, counterproductive work behavior, and withdrawal, including absenteeism and turnover. Meanwhile, within the context of health and well-being, job satisfaction is associated with burnout, physical and psychological well-being, and life satisfaction.^[3] It is important to note that people who love their job work harder and perform better and that people who perform well obtain more desirable results such as money and reputation, thus are more satisfied with their jobs. Job satisfaction has been studied not only as a precursor of desired behavior such as task performance but also as a potential cause of counterproductive behavior.^[10]

The workplace environment has a huge impact on the well-being of employees.^[11] It has been argued that trends in employment conditions may erode job satisfaction levels and directly harm the physical and mental well-being of employees.^[12] Work-related stress is a growing concern as it has considerable economic implications for organizations through employee dissatisfaction, low productivity, and diminishing the emotional and physical well-being of employees.^[13] Job satisfaction level can act as a determinant of an individual's health and well-being. It is known that the psychosocial environment, which is a key element of job satisfaction, has a well-documented impact on health among employees.^[4]

MATERIALS AND METHODS

Place, Time, and Sample Selection of the Research

The study was carried out with 138 adult male employees (69 blue collar-69 white collars) between the ages of 18-64 working in a private company in Ankara between December 2021 and April 2022. The study was approved by the Medical and Health Sciences Research Council of Başkent University (Project no: KA21/520). The questionnaire consisting of 31 questions and the Job Satisfaction Survey (JSS) consisting of 36 questions were administered to determine the general information and anthropometric measurements of the individuals participating in the research, while the Healthy Eating Index-2010 (HEI-2010) and Food Frequency Questionnaire were administered to measure the nutritional quality of the participants and to determine their nutritional status. The weight measurements of the individuals were made via a Tanita BC 730 brand scale, and the heights of the individuals were made by the researcher via a stadiometer. Body mass index (BMI) was calculated during statistical analysis. Waist and hip circumferences were measured by the researcher and recorded in the questionnaire. Body mass index was calculated by dividing body weight (kg) by the square of height (m²).

Job Satisfaction Survey (JSS)

The Job Satisfaction Survey (JSS), introduced by Paul S. Spector, was developed to evaluate the attitudes of employees about their job and distinct aspects of the job, and consists of a total of 36 items, 17 of which are positively worded and 19 of which are reversely worded. The validity and reliability study of the Turkish version of the scale was conducted by Yelboğa and the Cronbach's alpha internal consistency coefficient of the scale was determined to be 0.78.^[14] The Job Satisfaction Survey consists of 9 dimensions: pay, promotion opportunities, management and supervision, benefits, contingent rewards, operating procedures, co-workers, nature of the job, and communication. Each dimension is evaluated with four items and a total score is calculated from all items. The survey is administered via a 6-point Likert-type scale. Depending on the sum of 36 items, the total job satisfaction scores can vary between 36 and 216 points. For a total of 36 items with possible scores ranging from 36 to 216, the 36-108 score range was considered to be job dissatisfaction, 108-144 score range as indecisiveness, and 144-216 score range as job satisfaction.^[3]

Healthy Eating Index 2010 (HEI-2010)

The Healthy Eating Index-2010 (HEI-2010) (Annex-5) was administered to measure the diet quality of the individuals participating in the study. HEI-2010 consists of a total of 12 components, 9 of which assess adequacy and 3 of which must be consumed moderately. With the increase in consumption of qualification components, scores increase proportionally. In limited consumption components, the low consumption increases the score. The maximum total score that can be obtained from 12

components in HEI-2010 is 100, while the minimum score is 0. If the HEI score is above 80, the diet is considered to be “good”, between 51-80 as “need to be improved”, and below 50 as “poor”.^[15]

Statistical analysis of data

The data collected during the research were saved to the IBM SPSS Statistics 22 software for analysis. Continuous variables obtained from the questionnaires were expressed as mean (\bar{x}), standard deviation (SD), and min-max values, while discrete variables were expressed as numbers (n) and percentage (%). Whether the data fit the normal distribution or not was analyzed via the Kolmogorov-Smirnov test. The Mann-Whitney U test was used to analyze the significance between two groups in the data that did not conform to the normal distribution, while the Kruskal Wallis test was used to analyze the significance between more than two groups. Pearson Correlation test was conducted for the data suitable for normal distribution for the analysis of the relationship between numerical measurements. In the tests, the statistical significance level was considered to be $p < 0.05$.^[16]

RESULTS

The ages of the individuals ranged from 22 to 64, and the mean age was determined to be 36.6 ± 10.23 years for

white-collar workers and 36.8 ± 9.73 years for blue-collar workers. When the working time of the individuals participating in the study was examined, it was found to be 32.7 ± 28.93 months for white-collar employees and 28.7 ± 24.06 months for blue-collar employees (not shown in the table).

Table 1 shows the distribution of individuals' job satisfaction surveys and healthy eating index results. 59.4% of white-collar individuals had job satisfaction, whereas 7.2% had job dissatisfaction. In blue-collar employees, these rates were found to be 46.4% and 2.9%, respectively. As a result of the analysis, no significant difference was found between the job satisfaction survey scores of the employees and their staff status ($p > 0.05$). Healthy Eating Index (HEI-2010) mean score of the individuals was determined to be 59.7 ± 4.26 (white-collar: 60.3 ± 5.76 , blue-collar: 61.0 ± 6.92). None of the individuals included in the study had a good (>80) diet quality score. No significant difference was found between diet quality score classification and staff status ($p > 0.05$).

Table 1: Individuals' job satisfaction survey and healthy eating index total score average and score classification.

	White-collar (n=69)		Blue Collar (n=69)		Total (n=138)		P
	n	%	n	%	n	%	
JSS Classification							
Job Dissatisfaction (36-108 points)	5	7,2	2	2,9	7	5,1	0,087*
Indecisiveness (108-144 points)	23	33,3	35	50,7	58	42,0	
Job Satisfaction (144-216 points)	41	59,4	32	46,4	73	52,9	
Total score ($\bar{x} \pm SD$)	151,9 \pm 29,48		143,9 \pm 23,21		147,9 \pm 26,74		0,095 ⁺
Healthy Eating Index-2010							
Good diet (>80 points)	-	-	-	-	-	-	0,377*
Needs improvement (51-80 points)	2	2,9	2	2,9	4	2,9	
Poor diet (≤ 50 points)	67	97,1	67	97,1	134	97,1	
Total score ($\bar{x} \pm SD$)	60,3 \pm 5,76		61,0 \pm 6,92		59,7 \pm 4,26		0,258 ⁺
*Chi-square test, +Man Whitney U test							

In Table 2, the results of the job satisfaction survey according to the anthropometric measurement classification and the mean score and standard deviation distribution of the individuals from the healthy eating index are presented. Based on the BMI classification, the job satisfaction scale mean score of the white-collar employees who were mildly obese was found to be higher compared to the blue-collar employees ($p = 0.010$). No significant difference was found between the job satisfaction survey scores of the two groups, in terms of the waist/hip ratio classification ($p > 0.05$).

classification were determined to be 60.9 ± 4.72 and 60.9 ± 3.34 , respectively. According to the waist circumference classification, the mean HEI-2010 score of the white-collar individuals who are in the risk group was found to be significantly higher compared to the blue-collar individuals ($p = 0.024$).

The mean HEI-2010 scores of white-collar and blue-collar workers who are obese according to BMI

Table 2: The results of the job satisfaction survey according to the anthropometric measurement classification of the individuals and the mean and standard deviations of the scores they obtained from the healthy eating index.

	White-collar (n=69)		Blue Collar (n=69)		Total (n=138)		p ⁺	
	$\bar{x} \pm SD$		$\bar{x} \pm SD$		$\bar{x} \pm SD$			
	JSS	HEI-2010	JSS	HEI-2010	JSS	HEI-2010		
BMI classification								
Normal	146,4±27,31	61,1±6,62	147,8±23,28	58,6±5,34	147,0±25,26	59,9±5,14	0,861	0,366
Mildly obese	155,3±29,73	60,9±4,72	139,9±22,39	59,9±3,89	147,3±27,15	60,4±5,87	0,010	0,449
Obese	149,5±37,13	60,9±4,72	159,0±23,6	60,9±3,34	154,6±29,62	60,9±3,86	0,731	1,000
Waist circumference risk classification								
Normal	149,7±29,68	60,2±6,87	143,7±17,15	60,2±5,60	147,3±25,27	60,2±6,33	0,368	0,940
Risky	153,6±25,38	63,2±6,79	140,6±28,56	58,9±3,2	145,9±27,76	60,6±5,39	0,084	0,024
High risk	154,4±34,45	60,1±7,04	148,9±21,36	60,1±3,7	151,5±28,01	60,1±5,44	0,639	0,510
Waist-to-height ratio classification								
Normal	153,9±28,63	61,7±6,14	140,7±19,98	56,7±7,97	149,7±26,46	60,1±7,00	0,210	0,106
Risky	151,4±29,95	60,8±7,16	144,3±23,67	59,9±3,59	147,6±26,89	60,4±5,53	0,209	0,634
Waist-to-hip ratio classification								
Normal	134,6±30,88	56,8±12,86	121,0±4,24	56,3±14,42	130,7±26,13	56,7±12,04	0,857	1,000
Risky	153,3±29,18	61,3±6,29	144,6±23,21	59,8±3,90	148,8±26,56	60,5±5,25	0,068	0,215

+Mann-Whitney U-test, JSS: Job Satisfaction Survey, HEI-2010: Healthy Eating Index-2010

According to Table 3, no correlation was found between staff status, job satisfaction survey score, and healthy eating index score (p>0.05).

Table 3: Correlation between job satisfaction survey and healthy eating index scores.

	White-collar (n=69)		Blue-Collar (n=69)		Total (n=138)	
	The healthy eating index score					
	ry	P*	ry	P*	ry	P*
Job satisfaction survey score	0,196	0,107	-0,43	0,723	0,133	0,121

ry Pearson Correlation *p<0,0

DISCUSSION

Body Mass Index (BMI) is one of the fundamental methods widely used in determining obesity. Yet, BMI does not differentiate between lean mass and fat mass. Hence, other measures of adiposity that take into account body fat distribution, such as waist circumference, waist-to-hip ratio, and waist-to-height ratio, have been developed and studied.^[17]

In a study conducted with 104 white-collar and 180 blue-collar employees working in heavy industry establishments, the body mass index of blue-collar workers was found to be significantly higher than white-collar workers.^[18] On the other hand, in another study, the mean BMI values of white-collar workers were 26.8 ± 7.7 kg/m², while this value was found to be 26.6 ± 5.8 kg/m² in blue-collar workers.^[19] Similar to this study, the

BMI values of white and blue-collar workers in our study were found to be 26.4±2.98 kg/ m² and 27.4±3.89 kg/m², respectively, (p>0.05) (Table 2). Although BMI values were above normal in both groups participating in the study, it was found to be higher in blue-collar individuals. It is considered that the reason for this situation may be due to the lack of information about the healthy lifestyle of blue-collar individuals.

In a study conducted among US workers, blue-collar workers received an average of 2329.9 kcal of energy with a daily diet, while this rate was found to be 2243.6 kcal in white-collar workers.^[20] Likewise, in our study, the daily energy intake of blue-collar workers was found to be significantly higher compared to that of white-collar workers (p<0.05). It is thought that the reason for this situation is that the working conditions of blue-collar

individuals are based on body strength and require higher energy.

In a study comparing statuses, it has been revealed that individuals with higher status had a higher daily fiber intake compared to individuals with lower status.^[21] Moreover, in a study conducted by Kachan *et al.*, when fiber intake levels were examined, it was found that blue-collar individuals received significantly less fiber compared to white-collar individuals.^[20] Contrary to the literature, in our study, a significantly higher fiber intake was found among blue-collar individuals (29.0 ± 10.20) than white-collar individuals (25.0 ± 9.17) ($p < 0.05$).

In a study investigating the relationship between organizational culture and job satisfaction, the job satisfaction level of white-collar employees was found to be higher than that of blue-collar employees, and the difference was found to be significant.^[22] In the current study, when job satisfaction levels were examined, white-collar employees had more job satisfaction than blue-collar employees; however, the difference between the two groups was not significant ($p > 0.05$) (Table 1). Although no significant difference was found, the fact that white-collar individuals have a higher job satisfaction level than blue-collar individuals has been found to be compatible with the literature, and this is considered to be due to the higher social status of white-collar employees.

In a study conducted with healthcare professionals, no significant correlation was found between the energy and nutrients consumed by the participants and their job satisfaction.^[23] In the current study, the daily energy intake of individuals with job dissatisfaction (2315.2 ± 613.03) was found to be higher than those with job satisfaction (2160.0 ± 662.18) ($p > 0.05$) (Table 3). It is thought that this situation is caused by the fact that individuals' job dissatisfaction leads to consuming more food since it triggers job stress and negative mood.

Dietary quality is described as how well a person's food consumption is relative to current recommendations. The healthy eating index is a tool used to quantify diet quality.^[23] When the healthy eating index results were analyzed in the current study, none of the individuals had good diet quality, whereas 97.1% had poor diet quality ($p > 0.05$) (Table 2). In a study conducted on Thai workers, it has been revealed that 69.0% of individuals had poor diet quality.^[25] Another study has demonstrated that male workers had poor diet quality.^[24] Accordingly, this result, which is in line with the previous studies, is thought to be due to the nature of the work of white-collar workers, while, for blue-collar workers, it is thought that this is due to the fact that access to healthy food is more limited because of their socioeconomic status.

CONCLUSIONS

The findings obtained from this study provide a remarkable insight in terms of revealing the relationship between the job satisfaction levels of white and blue-collar workers and their nutritional status. In the study, it was found that the job satisfaction levels of white-collar employees were higher compared to those of blue-collar employees; however, there was no significant correlation between these levels and healthy eating index scores.

In conclusion, this research is a pioneering study investigating the impact of job satisfaction levels on nutritional status. No significant correlation was found between job satisfaction and nutritional status. Further research is needed on this subject.

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Conflict of interests: There are no conflicts to declare.

Ethics committee approval: This study was approved by Baskent University Institutional Review Board and Ethics Committee (Project no: KA21/520).

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