

RADIOGRAPHERS' JOB SATISFACTION: CROSS-SECTIONAL SURVEY IN LITHUANIA

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ABSTRACT

Background: Job satisfaction has become an important issue for healthcare organizations in recent years, because of potential labor shortages, their effect on patient care. Job satisfaction has a great influence in healthcare specialist retention and the delivery of high quality care. Rapid changes in of radiology services have placed more interest on radiographer's who will face not only all peculiarities of healthcare specialists' work, but also an increased physical risk, especially exposure to ionizing radiation, which highlights the importance of analyzing various aspects of these specialists' working conditions and job satisfaction.

Purpose: To evaluate radiographers' job satisfaction.

Materials and methods: The study was conducted using an original P. E. Spector's (1994) Job Satisfaction Survey. The instrument consists of the following subscales: Pay, Promotion, Supervision, Fringe Benefits, Contingent Rewards, Operating Procedures, Coworkers, Nature of Work, and Communication. The score of each subscale ranged from 4 to 24 points, and the total score – from 36 to 216 points. A greater score indicates greater job satisfaction. The study involved in all 127 respondents.

Results: The majority of the studied radiographers demonstrated moderate job satisfaction – the total job satisfaction score was 123.51 ± 16.4 points. The highest job satisfaction scores were observed in the Communication (20.8 ± 3.8 points), Nature of Work (18.1 ± 3.9), and Supervision (16.5 ± 4.1 points) subscales, and the lowest – in the Pay subscale (7.7 ± 3.9 points). Other causes of poor job satisfaction included an unclear system of Contingent Rewards (10.2 ± 4.3 points) and Operating Procedures (10.4 ± 3.8 points). Participants younger than 26 years of age were more satisfied with their work, compared to their older colleagues ($p < 0.05$), and widows were more dissatisfied than singles ($p < 0.05$). The study showed that greater work experience negatively affected radiographers' job satisfaction ($p < 0.05$).

Conclusions: The concept of job satisfaction is associated with employees' attitudes, emotions, feelings, and the satisfaction of their needs at work. The studied radiographers' overall job satisfaction was moderate. The radiographers' greatest job satisfaction was associated with communication, nature of work, and supervision, and the poorest – with pay, an unclear system of contingent rewards, and current operating procedures. The highest job satisfaction scores were observed in younger singles with higher education. Job satisfaction dropped with increasing work experience.

Keywords: radiographer, job satisfaction, survey

INTRODUCTION

Job satisfaction is an important aspect for a person as well as for an organization. This is a very broad concept that encompasses multiple aspects of a job, and thus creation of a single common definition is complicated. Job satisfaction is an integral value composed of satisfaction with various objects, subjects, and phenomena of the job. In addition, this value is ever-changing [1]. A survey of the definitions of job satisfaction found in scientific literature revealed three aspects of the definitions: an employee's attitudes, emotions, feelings, and the satisfaction of his or her needs at work [2-4]. Thus, the concept "job satisfaction" reflects an employee's positive attitudes towards his or her work, the satisfaction of his or her needs, and the resulting positive effect.

Employees' job satisfaction is important for ensuring an enterprise's productivity, the effectiveness of its activity, and the quality of its services, as well as for retaining good and loyal specialists [5]. Poor job satisfaction may result in weak cooperation and communication links, poor quality of services, hostility, poor health, and high staff turnover [6]. Biological, chemical-physical, and social-psychological factors of the working environment impair professional motivation of healthcare specialists and promote job dissatisfaction [7]. The character of healthcare specialists' work is associated with elevated mental and emotional stress, and thus, according to the Labor Code of the Republic of Lithuania, they have a shorter workweek - 38 (37) hours. However, in Lithuania, personal healthcare specialists for various reasons (mostly, because of low salaries and

a shortage of specialists) work in several places, exceeding the set workload norms and thus violating the work and leisure time regulations and risking their own and their patients' health [8]. According to various researchers, employees who are satisfied with their job more readily immerse in it, have a lower risk of the burnout syndrome, and work more productively and effectively. Job satisfaction depends on various factors, including the nature of the work, the operating procedures, workload, pay, relationships with coworkers, promotion opportunities, and supervision [9, 10]. According to research data, older employees frequently are more satisfied with their jobs than their younger colleagues are [11]. Better education is also frequently associated with better job satisfaction. Researchers have stated that better educated people have more interesting jobs, a greater autonomy, and better possibilities to satisfy their needs [12, 13]. According to various researchers, job satisfaction may be measured globally (overall satisfaction) and through individual aspects, such as working environment and payment, communication and interpersonal relationships, career opportunities, the managers' behavior and organizational activity, etc. [14, 15]. The research instruments for analyzing job satisfaction are distributed into three categories: multidimensional instruments for the evaluation of work in general, multidimensional instruments for the evaluation of concrete jobs, and instruments for the evaluation of job satisfaction via multiple factors [16]. Healthcare specialists' work requires much internal emotional and physical effort, and thus these specialists' job satisfaction is extensively analyzed in order to identify the main factors that affect job satisfaction, which would help to ensure a more favorable psychological climate and a better quality of the provided services [17]. Radiographers face not only all the peculiarities of healthcare specialists' work, but also an increased physical risk (especially exposure to ionizing radiation), which highlights the importance of analyzing various aspects of these specialists' working conditions and job satisfaction.

AIM OF THE WORK

To evaluate radiographers' job satisfaction.

MATERIALS AND METHODS

In order to evaluate radiographers' job satisfaction, we applied a quantitative research technique – a questionnaire-based survey. Non-probability purposive sampling was used for the study. The study included radiographers from various towns and cities of Lithuania irrespectively of their membership in the Lithuanian Association of Radiographers. The study was conducted on February 24, 2017, during the Assembly of the Lithuanian Association of Radiographers. In total, 150 questionnaires were distributed, of which 131 were returned. Four questionnaires were filled out incorrectly and thus were excluded from further analysis. The response rate was 87%. During the study, the requirements for confidentiality and anonymity were observed. In total, 127 radiographers participated in the study. All the participants (100%) were females. The largest age group (59.1%) consisted of 46-65 year-old radiographers. In addition, 68.5% of the participants were married or were living with a partner, and nearly one-half (48.0%) of the radiographers had post-secondary non-tertiary education level (Table 1).

To evaluate radiographers' job satisfaction, was used P. E. Spector's (1994) Job Satisfaction Survey (JSS). The instrument consists of 36 items evaluated by the respondents on a six-point scale, where 1 point means "strongly disagree", 2 points – "moderately disagree", 3 points – "partly disagree", 4 points – "partly agree", 5 points – "moderately agree", and 6 points – "strongly agree". The following aspects of the job were evaluated: pay, promotion opportunities, supervision, fringe benefits, operating procedures, work organization, coworkers, nature of work, and communication at work. Each of the nine subscales was evaluated by 4 statements. The sum score of each subscale ranged from 4 to 24 points, and the total score - from 36 to 216 points. Higher scores indicated better job satisfaction. To evaluate the internal consistency of the scale, Cronbach's alpha coefficient was used. Cronbach's alpha coefficient in the evaluation of the internal consistency of Spector's instrument was 0.899, which indicates high internal consistency and reliability of the JSS.

STATISTICAL ANALYSIS

Statistical data analysis was conducted by applying the statistical data storage and analysis software package SPSS v. 19. The level of significance selected for testing data points was established at $p \leq 0.05$, meaning that the difference was statistically significant. at $p \leq 0.001$ – statistically highly significant. Descriptive statistics was used to calculate the mean values of the variables within a 95% confidence interval. The normality of the distribution of quantitative variables was evaluated by using the Kolmogorov-Smirnov test. The mean values of the parametric variables of two independent samples with distribution that was not statistically significantly different from normal were compared by applying Student's t-test, and the mean values of parametric variables of more than two independent samples were compared by using the ANOVA test and the LSD post hoc criterion. The strength of the relationships between the characteristics was evaluated by calculating Pearson's correlation coefficient (r). If $0 < |r| \leq 0.3$, the values were weakly interdependent, if $0.3 < |r| \leq 0.8$, they were moderately interdependent, and if $0.8 < |r| \leq 1$, they were strongly interdependent. The correlation coefficient is positive when one value increases together with the other, and negative – when with an increase in one value, the other will decrease.

RESULTS

During the study, we evaluated individual aspects of job satisfaction, distributed into nine subscales. The study showed that radiographers attributed the highest job satisfaction scores to communication (20.8 ± 3.8 points), the nature of work (18.1 ± 3.9), and supervision (16.5 ± 4.1 points). The lowest job satisfaction score was observed in the Pay subscale – on the average, 7.7 ± 3.9 points. Other aspects associated with poor job satisfaction were an unclear system of contingent rewards (10.2 ± 4.3 points) and operating procedures (10.4 ± 3.8 points) (Figure 1).

The study showed that the mean total job satisfaction score was 123.51 ± 16.4 points, which means that the majority of the radiographers

were moderately satisfied with their job. The lowest total job satisfaction score was 74 points, and the highest – 187 points.

The evaluation of overall job satisfaction among radiographers of different age groups showed that respondents younger than 26 years of age were more satisfied with their job, compared to their older colleagues ($p=0.011$) (Figure 2).

In this study, we also evaluated overall job satisfaction depending on the respondents' marital status. The obtained results showed that widows were least satisfied with their job – which was shown by statistically highly significantly lower job satisfaction scores, compared to those provided by singles ($p=0.001$) (Figure 3).

The analysis of overall job satisfaction depending on the respondents' education level showed that radiographers with post-secondary non-tertiary education were less satisfied with their job, compared to college or university graduates ($p=0.036$) (Figure 4).

The results of our study showed that the greater the radiographers' work experience was, the less they were satisfied with their job. A statistically significant albeit weak negative correlation was observed between the respondents' overall job satisfaction and their work experience ($r = -0.296$, $p=0.010$) (Figure 5).

In general, the results of the study showed that the radiographers who participated in the study were moderately satisfied with their job – the highest score of an individual aspect of job satisfaction was only 20.6 points out of the maximum of 36. Satisfaction with the pay was especially poor – it barely exceeded the lowest possible score. The results of the analysis depending on the respondents' age, workload, and position showed that the respondents were most satisfied with relationships with their coworkers. Unfortunately, job satisfaction decreased with increasing work experience.

DISCUSSION

Healthcare specialists' work requires much internal emotional and physical effort, and thus these specialists' job satisfaction is extensively analyzed in order to identify the main factors that affect job satisfaction, which would help to

ensure a more favorable psychological climate and a better quality of the provided services. The analysis of various scientific studies showed that most research focuses on nurses' job satisfaction, whereas studies on radiographers' job satisfaction can hardly be found. For this reason, this evaluation of radiographers' job satisfaction indicates the practical novelty of the topic.

To evaluate radiographers' job satisfaction, we used P. E. Spector's (1994) Job Satisfaction Survey (JSS) designed for the evaluation of overall job satisfaction and its nine aspects. The study showed that most radiographers were moderately satisfied with their job. A similar level of job satisfaction was found in a study on the characteristics of nurses' internal motivation for professional activity and their job satisfaction. The total job satisfaction score in P. E. Spector's Job Satisfaction Survey among nurses was also moderate and reached 123.7 points [6].

Similar results were obtained by other researchers who analyzed various aspects of radiographers' and other healthcare specialists' job satisfaction. A study on nuclear medicine technologists' job satisfaction also showed that the specialists were most satisfied with their relationships, and least satisfied with their pay [17]. Similar results were obtained in a study by Stterfield (2015): employees of the Faculty of Radiology were most satisfied with supervision and relationships with coworkers, the nature of the work and communication, and were dissatisfied with working conditions (operating procedures) and pay [18]. Thus, the results of this study confirm the assumption that healthcare specialists' salaries are a relevant issue and the most common cause of dissatisfaction with their job, whereas relationships with coworkers are most frequently evaluated as a factor that results in the greatest job satisfaction.

Our study showed that younger radiographers were more satisfied with supervision, relationships with coworkers, and fringe benefits, whereas 46-65 year-old respondents more favorably evaluated the probability of contingent rewards. These results differ from statements found in sci-

entific literature indicating that older employees are more satisfied with their job than the younger ones because of their greater competence, professionalism, and lower ambitions and requirements for the job [11, 13].

The employees' marital status is one of the independent factors that affect job satisfaction. According to various research data, job satisfaction depends on whether the employee is living with a partner or alone. Our results are in line with those of other studies, showing that married or cohabiting women were more satisfied with their relationships with coworkers, supervision, and the nature of the work [6, 19].

Education is another factor that affects employees' job satisfaction. In this study, we evaluated job satisfaction among radiographers with different education background and detected statistically significant differences. Respondents with post-secondary non-tertiary education were less satisfied with supervision and relationships with coworkers, compared to radiographers with higher university-level education. These results corroborate the statement found in scientific literature indicating that better education frequently results in better job satisfaction [20].

Various scientific studies have analyzed the associations between job satisfaction and work experience. The results of those studies indicate that satisfaction with the job or its various aspects increases with increasing work experience. For instance, research on nurses' job satisfaction showed that nurses with greater work experience (over 21 years of service) were more satisfied with their professional activity [6]. However, the results of our study showed that the greater the radiographers' work experience was, the less they were satisfied with their job.

CONCLUSIONS

A survey of scientific literature showed that the concept of job satisfaction is associated with employees' attitudes, emotions, feelings, and the satisfaction of their needs at work.

The results of the study showed that the radiographers' overall job satisfaction was moderate.

The radiographers' greatest job satisfaction was associated with communication, nature of work, and supervision, and the poorest – with pay, an unclear system of contingent rewards, and current operating procedures.

The highest job satisfaction scores were observed in younger singles and in radiographers with higher non-university or university-level education. Job satisfaction dropped with increasing work experience.

Table 1. Socio-demographic characteristics of the respondents.

	Sociodemographic characteristics	n	%
Age groups	<26 years	9	7.1
	26-45 years	38	29.9
	46-65 years	75	59.1
	>65 years	5	3.9
Marital status	Married/cohabiting	87	68.5
	Single	19	15.0
	Divorced	17	13.4
	Widowed	4	3.1
Education level	Post-secondary non-tertiary	61	48.0
	Higher non-university	43	33.9
	Higher university	23	18.1

Figure 1. Scores of individual subscales of the Job Satisfaction Survey (m±SD).

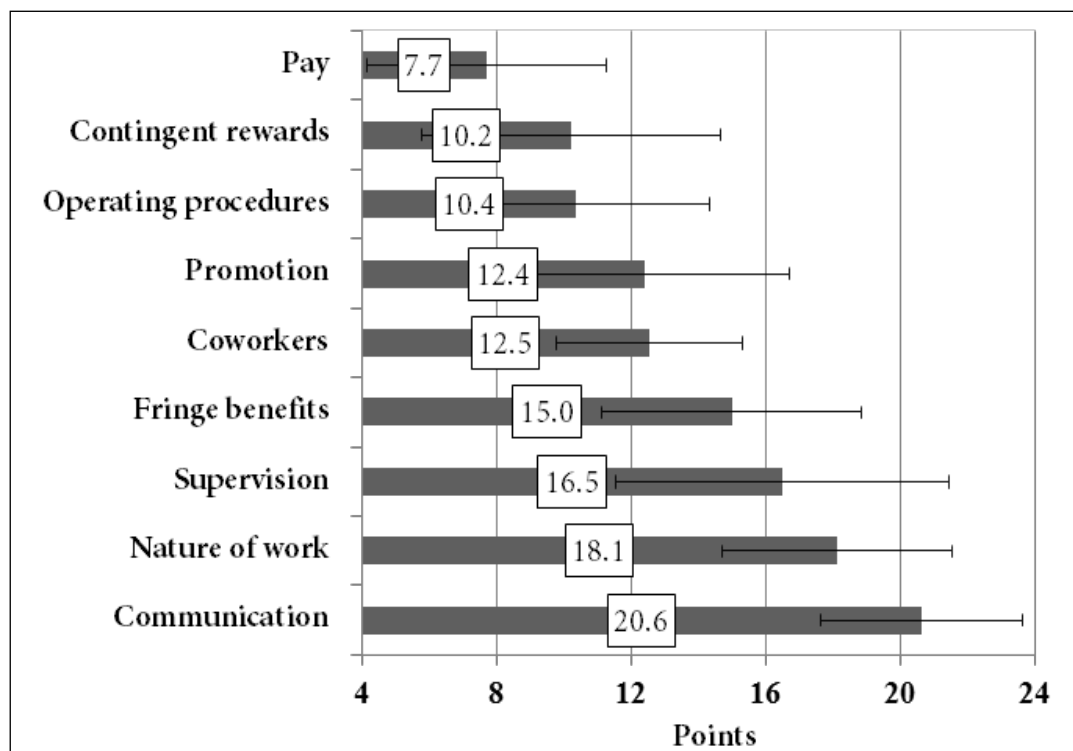
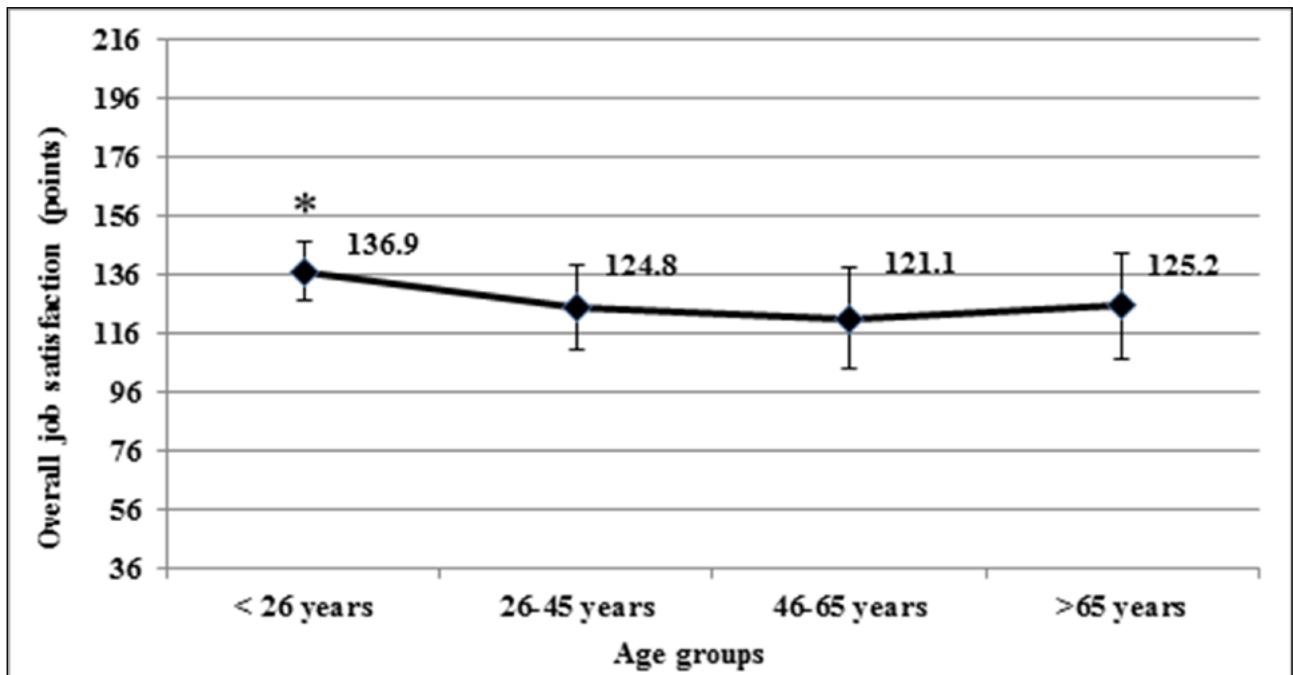


Figure 2. Associations between the subjects' overall job satisfaction and age (m±SD).



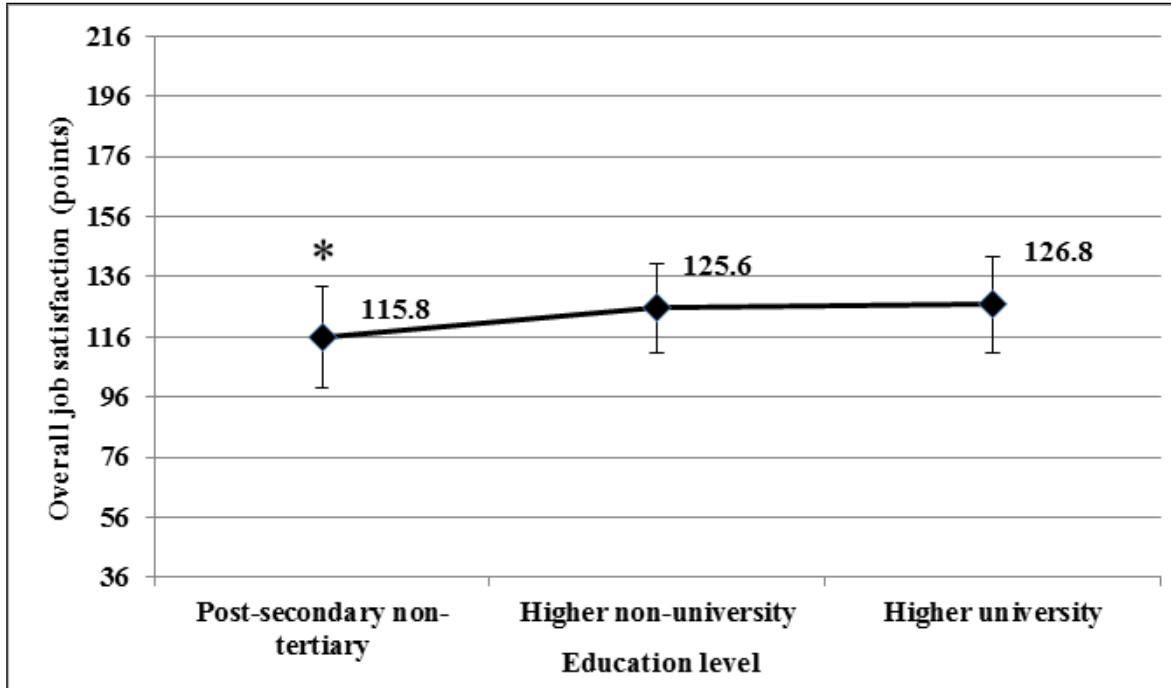
- $p < 0.05$, compared to older subjects

Figure 3. Associations between the subjects' overall job satisfaction and marital status (m±SD).



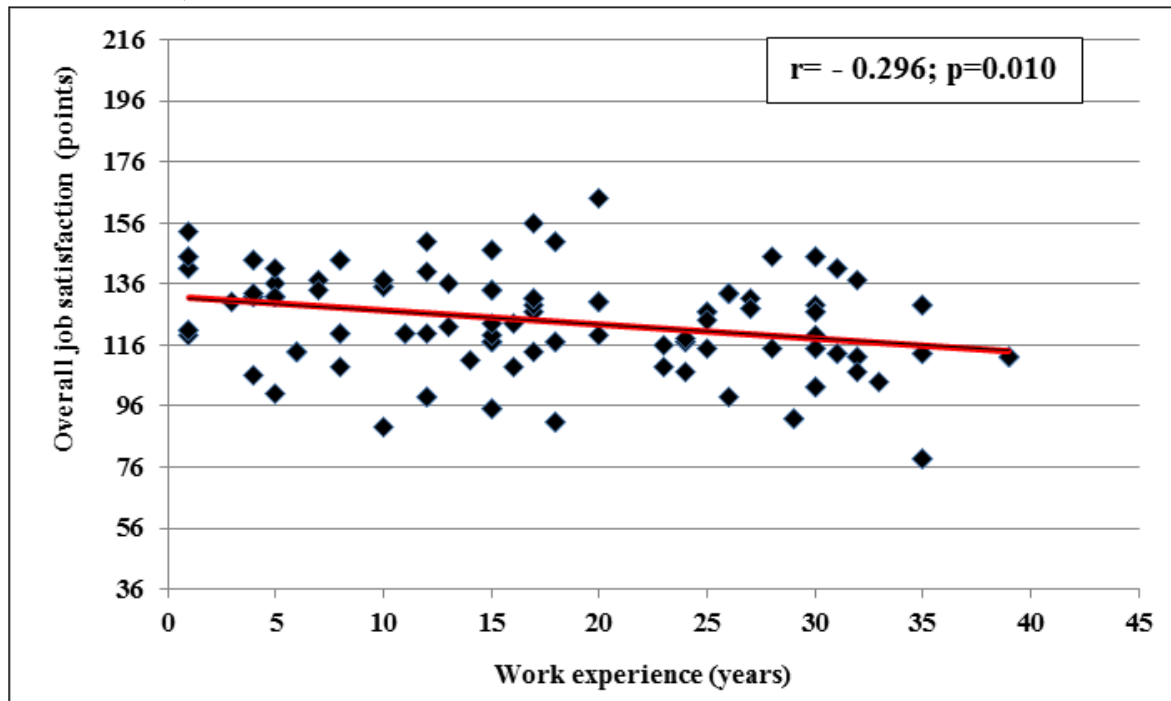
*- $p < 0.001$, compared to singles

Figure 4. Associations between the subjects' overall job satisfaction and education level (m±SD).



*- $p < 0.05$, compared to those with higher education

Figure 5. Associations between the subjects' overall job satisfaction and work experience (Pearson's correlation).



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