

## **Studying the Influence of Factors Affecting Participant's Motivation and Job Satisfaction on the Effectiveness of On-the-job Training in the Iranian Oil Industry**

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### **Abstract**

The present paper examines the effect of two effective factors, namely motivation and job satisfaction, on the effectiveness of on-the-job training (OJT) in the Iranian Oil Industry. Therefore, two main hypotheses and six submain hypotheses were defined and all were confirmed. The population of the study was composed of oil industry official employees. The sample of research was taken from the employees of three main companies of oil industry: petrochemical, oil refinery and distribution, and national Iranian oil company in the north, center, and south areas. It was taken by a simple random method with drawing lots. Its size was 171 people according to Morgan table and Cochran formula. Questionnaires developed by the researchers formed the data collection tool. The hypotheses were examined, and the data were analyzed by multiple regression tests. The results showed significant relationship of job satisfactions and staff motivation with OJT courses. Stronger dependency was found between motivations and job satisfaction variables with the effectiveness of attitude training courses.

**Keywords:** Motivation, Job Satisfaction, On-the-job Training, Oil Industry

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### **1. Introduction**

On-the-job training (OJT) can be regarded as a main function of training managers in organizations to address the failures and problems and to enhance the skills and knowledge that will result in more effective and efficient individuals and organizations; it has a more practical facet. Nowadays, managers should regard OJT as a priority to keep pace with the goals and organizational changes. Tao (2006) proposed a model in which the efficacy of OJT courses was influenced by several factors, e.g. religious, social and administrative knowledge, professional satisfaction, motivation, and personal attitude.

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The fulfillment of organizational goals depends on employees' abilities in performing the assigned functions and in adapting to the changing environment. The fulfillment of staff training makes it possible for them to effectively work and to improve their effectiveness and productivity in accordance with organizational and environmental changes. Hence, training is the ongoing and planned efforts by the management to improve employees' competence and organizational performance (Selmer, 2010).

Education has always been a tool for enhancing performance and tackling management obstacles, and its lack is an underlying problem in all organizations. OJT is undoubtedly one of the most important and effective strategies for improving organization affairs aimed at equipping human resource and its more effective utilization. Training is a major task in any organization, and it is a continuous process rather than being temporary. Employees at all organization levels, whether in simple or complex managerial or in subordinate positions, need training, learning, and acquiring new knowledge and skills, and they should always do better work of all types, methods and acquire new information. In addition, the employees whose jobs have been changed need information and skills to perform their new job duties in a successful manner (Wootton & Barras, 2010). In fact, the impact of training and motivation and job satisfaction can be assessed by answering a question, "What is the relationship between the effectiveness of OJT and motivation and job satisfaction in the Iranian Oil Industry?"

Next section is devoted to the review of literature on motivation, job satisfaction, and effectiveness of OJT.

## **2. Background of research**

### **2.1. Job satisfaction**

All people may encounter problems in their everyday life, which may be regarded as desirable or undesirable. The attempts to cope with these problems may induce the feeling of satisfaction or dissatisfaction in them. Workspace also causes various feelings among which the feeling of satisfaction or dissatisfaction is one of the most important ones. Thus, people should be examined from psychological, physical, and workspace viewpoints to find out who is satisfied with his job under what conditions. Job satisfaction is a kind of field, tendency, interest, affection, talent, and readiness to respond desirably or undesirably, and overall it is an attitude towards workspace. Sometimes, concepts like feelings, attitudes, and morale are confused. In other words, job satisfaction is the reflection of an individual's feelings about his job, and morale is the sum of a group of people's attitude towards their jobs.

According to Wood and Bold (1978), job satisfaction is composed of various dimensions. No matter what it is, satisfaction or dissatisfaction is related to the feeling, and this is people who see the issue in this way or that way, and express satisfaction or dissatisfaction in accordance with their prior mental experiences and present success.

In a study on the relationship between job satisfaction and work performance, Briafield and Croquet (1977) stated the traditional belief that satisfaction results in job performance. But today, it cannot be said that satisfaction is the only factor affecting job performance, but it should rather be noted that absenteeism and remissness are associated with job satisfaction, too. The more satisfied the person is with his job, the less absenteeism he shows. Also, it can be said that satisfaction is the motive for job performance on the one hand, and its results are on the other hand. Satisfaction is the sum of all favorites which are directly related to work, environment, and person. Organizational industrial psychologists are compelled that people's attitude is significantly related to their job behavior and job

satisfaction. Therefore, organization managers are interested in studies on motivation and job satisfaction since they have realized that job satisfaction is in direct relationship with (i) lower production costs, (ii) higher productivity, (iii) lower absenteeism, (iv) higher efficiency, and (v) lower mistakes (Lund, 2003).

Regarding job satisfaction, it is reported that people with certain personalities are satisfied with their jobs and are highly motivated to do their duties despite of the job type they have (Wim et al., 1999).

Boundra (1986) suggested in social learning theory that a person's satisfaction with his/her job depends on his/her coworkers' satisfaction with their jobs. When all the employees in a department are constantly complaining, a single employee can hardly be satisfied with his/her job in that department (Groot et al., 1999).

According to Adam's equity theory (1960), it can be predicted that no matter what internal and instinct interests one has to his/her job, if the punishment and reward system is not based on a fair system, he/she will be unsatisfied with his/her job, especially if earning is not his/her only reason to work. As the theory of job characteristics and Maslow (1970)'s theory of hierarchy of needs states, the lack of opportunities for growth, challenge and diversity, autonomy and development results in lower interest and satisfaction of most people with their jobs. Herzberg (1959) proposed two-factor theory of motivator and hygiene. He suggested two methods, job enrichment and job development, for improving employees' job satisfaction (Oshagbemi, 1997).

According to Leuvler (1972), the theory of two-dimensional satisfaction says that (Saatchi, 2001):

- 1- Motivation is perceived from individual effort and his performance leads to job satisfaction intermediated by the individual's ability; and
- 2- When a person believes that his/her performance results in desired outcomes, his/her job satisfaction improves his/her motivation.

Communications and human behavior creates concord by themselves, and this harmony creates emotions and feelings. Personalities attract each other under equal conditions resulting in coordination and, conversely, heterogeneous environment creates abhorrence among people.

Factors creating professional satisfaction include (Spithoven, 2003):

- 1- adaptation with environment, a person's adaptation to job type, a person's relationship with his coworkers, supervising type, organization environment, social environment of the job, and social status;
- 2- personal characteristics and situational variables mentioned by Leunbergand Conrad (1994) including personality and age, and
- 3- sex and situational factors.

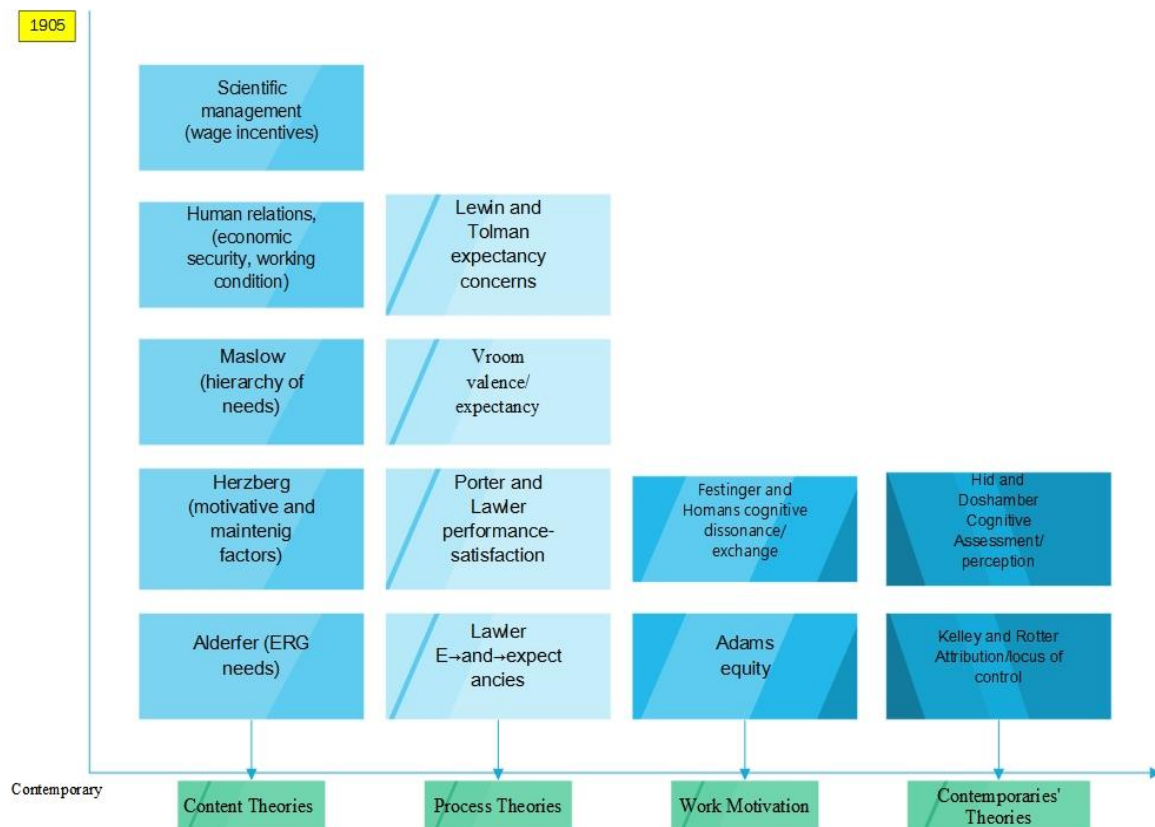
## **2.2. Motivation**

Motivation is the sum of the forces that make an individual behave in a certain way (Griffin, 1997). It is the extent to which an organism is ready to chase a number of pre-designed goals. Motivation has three key components (Saatchi, 2001):

- 1- The synergy: a force that exists in an organism and makes it engage in an activity,
- 2- Guiding: in which a person's behavior is guided in a specific direction, and
- 3- Endurance: the reason why an individual is expected to work in an organization in which he has been recruited for a long time.

According to these three characteristics, it can be said that “motivation to work” means the situations, circumstances, and conditions under which an individual is persuaded and guided to display behaviors associated with his job conditions (Saatchi, 2004). There are several theories about motivation. They can be classified in three groups: content-based, process-based, and contemporary.

The objective of content-based theories is to precisely identify the parameters that motivate people to do a job. These theories list the requirements and motives that result in motivation and they usually express how these parameters are satisfied in an organization. This group of theories includes the theory of Maslow’s Hierarchy, dual theory, McKoland’s theory of achievement, Alderfer’s 3-dimensional theory, Herzberg’s two-factor theory, and two-factor theory of job satisfaction (Keller, 2006). Various developments on motivation theory are provided in Figure 1.



**Figure 1**  
Motivation theories (Hamidian, 2006).

**Process-based theories of motivation** mostly emphasize motivating current and process. Process-based theories of motivation try to discover how motivation takes place, rather than trying to recognize and list the motivational stimuli. These theories focus on how an individual selects a specific behavior for satisfying his/her needs and how he/she evaluates his/her satisfaction when he/she achieves his/her goals. In total, process-based theories seek to explain and describe the overall process of an individual’s motivation. They include potential theory, expectancy theory, and equality theory (Keller, 2006).

**Contemporary theories** include cognitive dissonance theory, communication, self-perception, and target documents, and others that have been recently proposed.

### **2.3. Kirkpatrick's training effectiveness model**

The effectiveness, in general, and the effectiveness of educational programs, in particular, can be evaluated in many different ways. The factors considered in effectiveness evaluation include the achievement to educational goals and the realization of career objectives of students training, including determining compliance of trainee's behavior with their supervisors and managers' expectations, determining the extent of doing job correctly, determining the extent of skills created by the trainings for realizing the pre-determined purposes, determining the value added, determining the extent of the enhancement of business status indices (Soltani, 2001, 2003; Irons & Alexander, 2004).

In fact, the evaluation of the effectiveness of a course shows how much the training has been practically translated into the skills required by the organization (Irons & Alexander, 2004).

Kirkpatrick model is theoretically and operationally explained in the next paragraphs considering the importance of evaluating the effectiveness of training and the popularity of this effectiveness evaluation model in Iran in recent years.

This model evaluates a training course at four levels (Kirkpatrick & Kirkpatrick, 2009):

**(Level 1) reaction:** it means the extent of trainees' reaction and response to all factors that affect the execution of a training course. Reaction estimates participants' feelings about the training course. These surveys sought to obtain participants' views about training, curriculum, assignments, instructional materials, equipment, devices, and content of classes or training courses.

**(Level 2) learning:** learning is to assess the acquisition of skills, techniques, and facts that the participants are exposed to in order to learn them, and it can be found out by previous trainings, OJT, and post-training surveys.

**(Level 3) behavior:** The behavior means how and to what extent the participants' behavior is changed as a result of the training, and it can be found out by continual evaluation in real workspace. This level is much more challenging than the other levels because participants should have the opportunity to change their behavior, because the exact time of changes in behavior cannot be predicted, and because the organizational climate may affect the change in behavior.

**(Level 4) results:** it shows to what extent the goals directly related to the organization are realized. It is extremely difficult to measure this level in which the outcomes such as cost-saving, lower duplication, higher quality of products, profit, and sales will be studied.

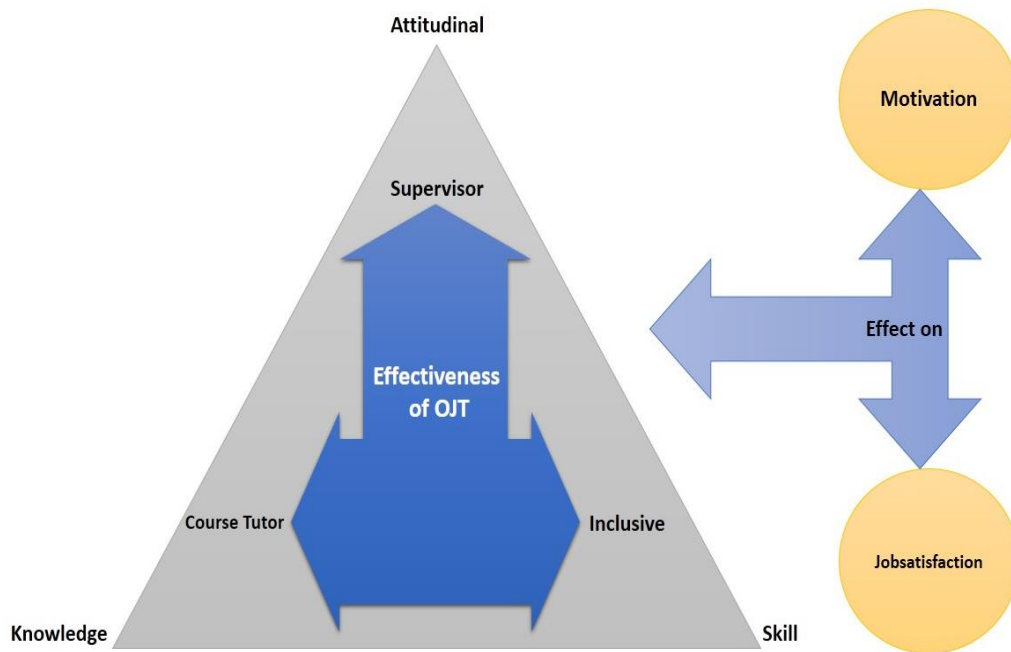
In this case, the identification of common implementation steps in all the four levels as well as the determination of the level required for the evaluation plays an important role in enhancing the performance of research team. Many education experts believe that the common implementation steps in all the levels of evaluation include 1) planning and evaluation, 2) selection of the appropriate tools, 3) compliance tools, 4) evaluation, 5) analysis of the evaluation, and 6) reporting.

It should be noted that there is no rule of thumb to determine which level is appropriate for the evaluation of training. In complex cases, training and human resource development experts can help (Kirkpatrick & Kirkpatrick, 2009).

### **3. Theoretical model**

In the present study, the influence of motivation and job satisfaction and quality of career life on the effectiveness of training course was examined on the basis of the third level of Kirkpatrick's model due to its importance for managers in the Oil Ministry to identify the effectiveness of employees in workspace. In addition, impressed by Taos model (2006), only motivation and job satisfaction factors

of the model were considered, and finally, the research design was presented as shown in Figure 2, by which the researchers would try to answer the hypotheses of the study.



**Figure 2**  
Theoretical model.

## 4. Research hypotheses

### 4.1. Main hypotheses

- 1- Participant's motivation significantly influences the effectiveness of on-the-job training (OJT) courses in the Oil Industry.
- 2- Participant's job satisfaction significantly influences the effectiveness of OJT courses in the Oil Industry.

### 4.2. Sub main hypotheses

- 1- Participant's motivation influences the effectiveness of skill training courses.
- 2- Participant's motivation influences the effectiveness of knowledge training courses.
- 3- Participant's motivation influences the effectiveness of attitude training courses.
- 4- Participant's job satisfaction influences the effectiveness of skill training courses.
- 5- Participant's job satisfaction influences the effectiveness of knowledge training courses.
- 6- Participant's job satisfaction influences the effectiveness of attitude training courses.

## 5. Methodology

This study is a descriptive survey in nature. First, library and field methods were used for examining the related literature, the related topics, and the proposed models. The Delphi method (opinion poll from experts) was used for determining the range of variables, and finally, the relevant writers and theorists were interviewed by mail for adjusting and facilitating the design of the model and methodology which resulted in the formation of the theoretical basis and the hypotheses. Then, data

needed to test the hypotheses of the study were collected with a questionnaire which plays an essential role in descriptive surveys. Also, the sample group was interviewed.

In this study, five questionnaires were used. They were composed of two sections for demographic and specialized questions. The first two questionnaires were related to job satisfaction and motivation which were used for all courses and samples, and the other three questionnaires were related to the effectiveness of the courses in terms of the courses and respondents. They were rated on the Likert scale. The mean of three questionnaires was regarded as the effectiveness of the course.

**(A) Demographic questions:** in this section, it was tried to gather generic and demographic information about respondents by asking eight questions.

**(B) Specialized inventory questionnaires** varied with the question type.

Reliability measurement shows how consistent the results are under the same conditions. Cronbach's alpha was used to assess the reliability of the questionnaires. Cronbach's alpha coefficient of the data of five questionnaires analyzed by SPSS statistical software is presented in Table 1, which confirms the internal consistency of the questionnaires.

**Table 1**  
Reliability of the questionnaires.

Types of questionnaire	Reliability of the questionnaires
Motivation	0.937
Job satisfaction	0.901
Course effectiveness from instructors point of view	0.798
Course effectiveness from participants point of view	0.905
Course effectiveness from supervisor point of view	0.921

Finally, to analyze the data obtained from questionnaires, multiple linear regression was used as given by:

$$y = a + b_1x_1 + b_2x_2 + \dots + b_px_p \quad (1)$$

where,  $b_1, b_2, \dots,$  and  $b_p$  are the coefficients of variables, and  $a$  is constant;  $X_1$  to  $X_p$  are the variables included in the model.

Multiple regression is a sophisticated extension of correlate and is used to explore the predictive ability of a set of independent variables on one dependent variable. Different types of multiple regressions are used to compare the predictive ability of particular independent variables and to find the best set of variables to predict a dependent variable.

### 5.1. Research population and sample

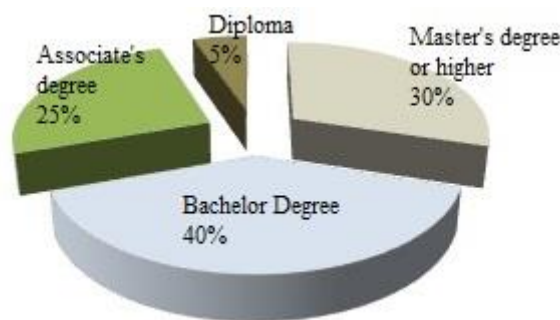
The population included all the employees of the Oil Industry. Sample size was determined by infinite sampling equation as follows:

$$n = \frac{z^2(1-r^2)}{r^2.d^2} \quad (2)$$

where,  $n$  is the sample size at 95% ( $\alpha = 5\%$ ) level. As a result,  $\frac{z^2\alpha}{2}$  is considered to be equal to  $(1.96)^2$ , and  $r$  or the correlation coefficient was obtained to be 0.6 according to data from prototype sample;  $d$  was considered as the degree of freedom to be 0.2 (Sarmad et al., 2014). As a result, the sample size was obtained to be 171. The studied sample was selected from three major companies including Petrochemical Company, Refining and Distribution Company, and National Oil Company in two regions of the north and the south.

## 6. Results and discussion

In terms of demographic characteristics, 15% of the participants were female and 85% were men, 30 percent of which had master's degrees or higher, 40% of which had bachelor's degrees, and the rest of which had associate degrees and diplomas (see Figure 3). Their distribution within the regions and companies are also shown in Table 2.



**Figure 2**

The demographic composition.

As shown in Table 2, the respondents showed that mean job satisfaction was 3.8/5, and motivation was 3.9/5. According to effectiveness questionnaire, the effectiveness of skill courses was 41%, that of knowledge courses was 23%, and that of attitude courses was 33%.

**Table 2**  
Descriptive statistics data.

Company	Region	Number	Mean of job satisfaction	Means of motivation	Mean of effectiveness of knowledge	Mean of efficacy Skill Courses	Mean of effect of attitudinal
National Petrochemical Company	North and Central	12	4.1	4	21	40	30.7
	South	36	3.6	3.9	20	42	30.5
National Oil Refining and Distribution Company	North and Central	39	3.9	3.8	25	40	36
	South	42	3.7	3.7	23	41	35
National Oil Company	North and Central	13	3.6	4.1	24	40	30.8
	South	29	4.2	4.2	25	43	31
Total	-	171	23.1	23.7	138	246	194
Average	-	-	3.83	3.9	23.1	41.2	33



Multiple linear regressions by SPSS software was used to test the hypotheses whose results are as follows:

*F* in Table 3 is 3.84, and the calculated *F* for two main hypotheses and six sub main hypotheses is greater than the table *F*. Therefore, the test statistic is in the critical region. Thus, it can be said that the effect of independent variables of job satisfaction and motivation was significant and positive on the effectiveness of (knowledge-skill-attitude based) training courses at the 95% probability level.

**Table 3**  
Summary of ANOVA for main and sub main hypotheses.

Hypothesis	Included variable	<i>F</i>	Sig	<i>F</i> <sub>0.05,1,169</sub>
First main hypothesis	Motivation	28	0.000	
Second main hypothesis	Job satisfaction	26	0.001	
First sub-hypothesis	Motivation / skills course	13	0.003	
Second sub-hypothesis	Motivation / knowledge course	18	0.002	3.84
Third sub-hypothesis	Motivation / attitudinal course	19	0.0006	
Fourth sub-hypothesis	Job satisfaction / skills course	21	0.0004	
Fifth sub-hypothesis	Job satisfaction / knowledge course	29	0.000	
Sixth sub-hypothesis	Job satisfaction / attitudinal course	20	0.000	

Table 4 shows the dependence of the effectiveness of OJT courses on motivation and job satisfaction. The higher the standardized regression coefficient is, the higher the dependence of dependent variable (effectiveness) on the one hand and the more effective the independent variables (motivation and job satisfaction) on the other hand are.

$$Y = a + b_1X + b_2Z + \dots \tag{3}$$

**Table 4**  
Regression coefficients for research model (impact of variables effectiveness).

Model variables	Non-standardized coefficients		Standardized coefficients	<i>t</i> statistics	Significance
	Regression coefficient	SD	Standardized regression coefficient		
<b>Motivation</b>	8.9	0.1	8.83	2.13	0.001
<b>Job satisfaction</b>	9.6	1.1	9.63	4.45	0.003
<b>Motivation (skills course)</b>	5.5	0.86	5.65	5.26	0.01
<b>Motivation (knowledge course)</b>	9.8	0.54	8.85	3.85	0.000
<b>Motivation (attitudinal course)</b>	10.11	0.87	10.91	3.26	0.000
<b>Job satisfaction (skills course)</b>	13.5	1.12	12.93	2.33	0.004
<b>Job satisfaction (knowledge course)</b>	5.6	1.24	5.31	5.22	0.000
<b>Job satisfaction (attitudinal course)</b>	14.24	0.89	13.978	2.97	0.003

Discussion of the research is summarized as given below. Ghasemi and Imamzadeh (2004) argued that the effectiveness of OJT courses can positively influence nurses' job satisfaction and motivation. In a study on nurses, Allahyari and Alhani (2006) found that OJT courses can enhance job motivation among nurses. Sharifzadeh and Abdi (2008) found that participants' satisfaction with the effectiveness of the courses can significantly influence customers' satisfaction with the organization. Wiley (1995) mentioned education as an important factor affecting job satisfaction. In a study on the effect of the course perceived by staff on their attitude, Alexandros and Bouris (2008) found a significant relationship between training effectiveness and job satisfaction as well as motivation. According to Gelfand et al. (2007), job satisfaction is an important factor affecting job motivation, and training is an important mediator. Tao (2006) stated that job satisfaction and motivation are behavior and attitude factors that significantly and positively impact the effectiveness of the training courses.

Geswary and Ashni (2012) reported that the relationship between behavior and organizational factors affecting the efficiency was significant and positive on improving the effectiveness of training courses. The results of the present study regarding the mutual positive relationship of OJT courses with motivation and job satisfaction are consistent with the findings of these studies. Shiroodi et al. (2006) examined the relationship of personality, location, and job satisfaction with burnout in order to determine the effectiveness of training courses for immunizing against stress, and they tried to determine the role of personality, location, and job satisfaction in burnout on the one hand and to determine the effectiveness of stress immunizing courses on reducing job burnout and enhancing job satisfaction on the other hand. According to their report, job burnout can be predicted by personality type, location, and job satisfaction among which job satisfaction was the first predictor, and location and personality were respectively the second and the third ones. Moreover, the instruction method in stress immunizing training course significantly influenced the reduction of job burnout and the increase in job satisfaction. The results of the second objective of this study are in agreement with one of the results of the present study, i.e. training results in higher job satisfaction.

Saeedi Rezvani (2008) investigated the effectiveness of in-service training courses in the Martyr Foundation of Islamic Revolution and found no significant difference between trained and untrained staff except in some behavior indices, including commitment and responsibility. However, it should be mentioned that commitment and responsibility are reflected in motivation and job satisfaction, which is indirectly in agreement with the results of the present study. Swamindathan and Gowri (2011) studied the perceived effectiveness of training and development and found that not only were staff's skill and knowledge improved by training, but they also were helped to do their tasks better; their personality and attitude as well as their self-confidence and commitment to work were also improved by training. In a study entitled "community of training satisfaction with a look at developing staff's job satisfaction," Latif et al. (2012) found a relationship between training satisfaction and effectiveness with staff's job satisfaction and development. Their results, i.e. the relationship between training effectiveness and job capability, which results in higher motivation and job satisfaction, are partially consistent with the results of the current work.

## **7. Conclusions**

The current study was conducted according to research objectives to examine the relationship of motivation and job satisfaction with the effectiveness of OJT courses in the Iranian Oil Industry and to test research hypotheses. Therefore, the conclusions drawn are given as follows:

- 1- Overall, job satisfaction and motivation were positively and significantly related to the effectiveness of in-service attitude, skill, and knowledge-based training courses in the companies of the Oil Industry.

- 2- The mean effectiveness was higher in skill-based training courses than that in other courses in the three companies studied.
- 3- In the two companies of Petrochemical Company and Refinery and Oil Products Distribution Company, mean job satisfaction and motivation were higher among the staff in the north and central branches than in those in the south branches; these two factors were also higher among the staff in the south than in the north in National Oil Company.
- 4- The relationship between motivation and the effectiveness of skill-based training courses and the relationship between job satisfaction and the effectiveness in knowledge-based training courses were stronger.
- 5- The significance of the effect of job satisfaction on the effectiveness of knowledge- and attitude-based training courses was higher than the effect of job satisfaction on the effectiveness of skill-based training courses and was higher than the significance of the effect of motivation on the effectiveness of the three training course types mentioned above.
- 6- The effectiveness of attitude-based training courses depended more on motivation and job satisfaction than on the other training course types.

In summary, it can be concluded that the studied companies can improve the effectiveness of training courses, especially attitude-based courses if they use correct managerial methods to enhance job satisfaction and motivation.

Given the fact that there are other factors influencing the effectiveness of OJT courses in the Oil Industry, it is recommended to further identify them and study their influences on the effectiveness of these courses.

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