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## **Designing the organizational creativity based on job characteristics and job involvement among physical education units' employees of Technology University**

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### **ABSTRACT:**

The aim of the present study was designing the organizational creativity based on job characteristics and job involvement among physical education employees of Technology University. The statistical population of the present study consisted of all employees, experts, and physical education units' managers. The statistical samples were 389 people reduced to 338 employees after eliminating the incomplete and useless questionnaires. The research method of the present study was descriptive-correlative. Three questionnaires of job characteristics, job involvement, and organizational creativity were used to evaluate the research variables which were distributed and gathered among research samples after translation and comparison with research samples via face validity (views of 12 sport management experts) and construct validity. The research results were analyzed by Partial Least Square (PLS) and showed that the best predictor of job involvement among physical education units' employees of Technology University was problem solving (ES= 0.41). However, the job characteristics of autonomy (0.26) and job feedback (.024) had more effects on employees' creativity. Other results showed that managers reported lower scores of job characteristics and creativity than sport employees. According to research findings, in order to achieve creativity in the workplace within physical education units of Technology University, the managers should stimulate the autonomy and feedback characteristics. Of course, it should not be neglected that this mechanism would be facilitated by creating the problem solving in job.)

**KEY WORDS:** job characteristics, job involvement, problem solving, creativity, job feedback



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## INTRODUCTION

The term creativity has always been a mysterious, broad and very complex concept. Creativity can be defined as the best level of human learning, the highest ability of thought and the ultimate product of human mind and thought. But regardless of the old belief that supposed creativity as a consequence of mythological and supernatural power, there is still difference of opinions among psychologists and psychological researchers in defining and explaining this concept due to the ambiguity and complexity of the nature of creativity in the context of science and psychology and new ethics. Accordingly, by 2016 there was no comprehensive definition to cover all its aspects and dimensions [1].

The managers of sport organizations should be aware to apply the methods of management correctly to be able to control their organizational creativity and performance. In confirmation of this interpretation, Sahraei et al. (2013) showed that there is a positive and significant relationship between the effectiveness of sport federations and creativity [1], although human resources considered as the most important part of organizational effectiveness of federations [4]. For this reason, the empowering of employees through job characteristics and their job involvement can evaluate, to a large extent, the organizational creativity in sport organizations. Of course, job involvement is not just about the emotional or feeling of interest and enjoyment of being in organization and work activity, but involved the sense of identity and responsibility in job. Perhaps, an emotional commitment is hidden in job involvement. In this job attitude, a person knows his job as his introducer. In other words, people with job involvement, pertained to their job and understand the importance of their tasks correctly. Such people rarely give up their job choices and are expected to work for the followed organization for many years. Employees, who have a desirable job involvement in their organization, are accurately aware of organizations' goals and missions and

play an important role in their alignment and formulations. In general, job involvement is an important variable which help the increase of organizational productivity.

The technology university, in lieu of a scientific and governmental organization, need creativity and productivity more than other governmental organizations according to its nature and mission. Hence, the university's physical education unit which is an integral part of the progress of each organization was analyzed as an effective factor. But organizational creativity can be created through what? To answer this question, the research must be reviewed. Previous studies show that all the empowering techniques of employees to create creativity and satisfaction return to the nature of their job [20]. In recent years, the model of job characteristics has been investigated in this regard and Cleave (1993) has explicitly demonstrated that this model can have positive effects in sport [12]. The JCM posited by Hackman and Oldham (1976) has been highly influential, and includes considerations about jobs such as job enlargement and job enrichment. Job enrichment 'is the technique entails enriching job, which refers to the inclusion of greater variety of work content, requiring a higher level of knowledge and skill, giving workers, autonomy and responsibility in terms of planning, directing, and controlling their own performance, and providing the opportunity for personal growth and meaningful work experience' [6 p. 5]. In contrast, job enlargement 'transforms the jobs to include more and/or different tasks' [7 p. 85]. These job considerations (job enlargement and job enrichment) are important because they include social characteristics, work context, and motivational characteristics. They also can improve employee perception of behavioral, attitudinal, role perceptions, and well-being outcomes [9] and can make jobs more interesting and challenging [10].

JCM provided a basis to assess job satisfaction, internal work motivation, efficiency, and other attitudinal outcomes of employees. In reflecting

on their work, Oldham and Hackman (2010) explained that they hypothesized the conceptual core of the approach of JCM from motivational theory of expectancy [11-16], and included concepts such as core job characteristics (e. g., skill variety, task identity, task significant, autonomy, and feedback), psychological states (meaningfulness of the work, responsibility for the outcomes of the work, and knowledge the actual results of the work), and attitudinal and behavioral outcomes (e. g., growth satisfaction, general satisfaction, internal work motivation, efficiency, and absenteeism). The new insights of Oldham and Hackman (2010) put greater emphasis on job characteristics and team building in workplaces, whereas they had originally argued that the characteristics of skill variety, task identity and task significance lead to the psychological state of meaningfulness of work and increase responsibility for the outcomes of work through the feature of autonomy. On the other hand, the same studies indicate that job characteristics cannot have direct effects on their own and should result in favorable outcomes through psychological mechanisms [20]. Hence, investigating research revealed that highly valuable job attitudes such as organizational citizenship behavior, job satisfaction, organizational commitment, job involvement, etc achieved through the main characteristics of job among which, job attitude and job involvement are the most valuable elements because they are more internal and more permanent than other job attitudes [2].

By investigating this research and the nature of university's physical education unit, this study designed to explain organizational creativity through the main characteristics of job including the skill diversity, task importance, task identity, autonomy, job feedback, information processing, problem solving and expertise. But the main point is that this impact will not be identified directly and the mediator role of job involvement will be analyzed. Therefore, the present study designed for the purpose of designing an organizational creativity model through the main characteristics of job and job

involvement among physical education units' employees of Technology University.

### **Methodology**

The present study is a kind of descriptive-correlative study in which the criterion variables investigated using structural equation modeling through Partial Least Square (PLS) and prediction by means of predictive variables. The statistical population of the present study consisted of all experts, responsible experts, and physical education units' managers. According to the limitation of population, the statistical sample selected as the statistical population (N=389). After eliminating the incomplete and useless questionnaires, 338 employees remained for the main study. Thus, about %78 of the return rate attained which was acceptable for generalizing to the community.

### **Instrumentation**

Jakou's job characteristics questionnaire (2004), Couongo job involvement questionnaire (1982), Dialilu and Huton organizational creativity questionnaire (2008) were used in this study. This questionnaire was first used by Jakou for 700 industrial workers and automotive engineers in the United States [10]. Then, Ramzani Nejad et al. (2014) and Talebipour et al. (2013) used this questionnaire and reported its validity and reliability in desirable sport environments [18]. After coordination and correspondence between the faculty of physical education and sport sciences on Mazandaran University and Technology University, experts were asked to participate in this study if they wish. Since all participants were from different parts of the country, measures were taken to send the questionnaires with officially automation. Due to the confidentiality of responses, respondents were asked to send their answers to the researcher's personal email.

### **Statistical analysis**

Descriptive statistics (frequency, percentage, mean, standard deviation) were used to evaluate the demographic characteristics and also to

determine the importance of variables. The Kolmogoroff-Smirnoff test was used to test data distribution. To analyze the statistical data and test the research hypotheses with regard to the abnormal data, Kruskal Wallis and Yuman Witney tests were used using SPSS software version 21, at a significant level  $p < 0/05$  to compare main characteristics of job, job involvement and creativity of physical education employees in Technology University. Also, PLS software was used to obtain factor loads, to predict the variables of research model, to confirm the validity of questionnaire and Cronbach's alpha was used to determine the reliability of questionnaire variables.

**Research findings**

**Hypothesis No. 1**

Null hypothesis (H0): The main characteristics of physical education employees' job in Technology University have no significant effect on their job involvement. To test this hypothesis, the structural equation model was used through Partial Least Square (PLS) software. The results of PLS showed that job characteristics such as autonomy in work, problem solving, task identity, job feedback had positive effects and expert characteristics had negative effects on job involvement ( $P < 0/05$ ). Therefore, the null hypotheses verified only for characteristics of skill diversity, task importance and information processing and for other relationships, first hypothesis (null hypothesis) rejected (table 1). According to these results, problem solving was the best predictor of job involvement among physical education employees in Technology University.

Table 1. The results of the effect of main characteristics of physical education employees on job involvement

Rejecting/confirming null hypothesis	T value	The level of meaningfulness	Standard error	Mean of mini-samples	Total estimate of sample	variables
Reject null hypothesis	2/71	0.01*	0.8	0.33	0.33	< Autonomy in work job involvement
Confirm null hypothesis	1/12	0.6	0.4	0.7	0.0	Information <processing Job involvement
Reject null hypothesis	6/42	0.01*	0.6	0.41	0.41	< Problem solving job involvement
Confirm null hypothesis	- 0/33	0.6	0.4	0.0	- 0.1	job < Skill diversity involvement
Reject null hypothesis	- 2/12	0.1*	0.0	0.11	- 0.12	job < expertise involvement
Reject null hypothesis	0.4	0.6	0.4	0.0	0.0	<task importance job involvement
Confirm null hypothesis	2/17	0.04*	0.7	0.10	0.16	job < Task identity involvement
Reject null hypothesis	2/37	0.04*	0.9	0.22	0.22	job < Job feedback involvement

Meaningful level:  $P < 0/05$

In a general analysis, it was also found that job characteristics had very strong effect on job involvement among physical education units' employees in Technology University (ESE=0.75; T=28.61;  $P < 0/05$ ).

**Hypothesis No. 2**

Null hypothesis (H0): The main characteristics of physical education employees' job in Technology University have no significant effect on their creativity. To test this hypothesis, the structural equation model was used through Partial Least Square (PLS) software. The results

of PLS showed that job characteristics such as autonomy in work, problem solving, task identity and job feedback had positively significant effect on their creativity ( $P \leq 0/05$ ). Therefore, the null hypotheses confirmed for characteristics of skill diversity, expertise and

for other relationships of second hypothesis, null hypothesis has been rejected (table 2). According to these results, job feedback and autonomy in work was the best predictors of job involvement among physical education employees in Technology University.

Table 2. The results of the effect of main characteristics of physical education employees on creativity

Rejecting/confirming null hypothesis	T value	The level of meaningfulness	Standard error	Mean of mini-samples	Total estimate of sample	variables
Reject null hypothesis	4/24	0.01*	0.6	0.27	0.26	Autonomy in work < creativity
Confirm null hypothesis	1/81	0.6	0.0	0.11	0.10	Information < processing creativity
Reject null hypothesis	3/16	0.01*	0.0	0.19	0.18	Problem solving < creativity
Confirm null hypothesis	1/89	0.6	0.0	0.10	0.11	Skill diversity < creativity
Confirm null hypothesis	- 0.97	0.6	0.3	0.4	- 0.3	expertise < creativity
Reject null hypothesis	2/3	0.4*	0.6	0.11	0.12	task importance < creativity
Reject null hypothesis	2/49	0.4*	0.0	0.12	0.14	Task identity < creativity
Reject null hypothesis	4/09	0.01*	0.6	0.27	0.24	Job feedback < creativity

Meaningful level:  $P < 0/05$

In a general analysis, it was also found that job characteristics had very strong effect on creativity among physical education units' employees in Technology University ( $ESE=0.83$ ;  $T=42.80$ ;  $P < 0/05$ ).

involvement has the most effect on realized organizational support components.

**Hypothesis No. 3**

Null hypothesis (H0): Job involvement of physical education employees has no significant effect on each dimensions of organizational creativity in Technology University.

To test this hypothesis, the structural equation model was used through Partial Least Square (PLS) software. The results of PLS showed that job involvement has significant effect on all aspects of creativity among physical education employees in Technology University ( $P < 0/05$ ). According to table 3, it can be noted that job

Table 3. The results of the effect of job involvement on physical education employees' creativity

Rejecting/confirming null hypothesis	T value	The level of meaningfulness	Standard error	Mean of mini-samples	Total estimate of sample	variables
Reject null hypothesis	9/19	•/•••*	•/••	•/49	•/49	potential creativity < job involvement
Reject null hypothesis	16/38	•/•••*	•/•3	•/6•	•/•9	actual creativity < job involvement
Reject null hypothesis	17/17	•/•••*	•/•3	•/6•	•/66	realized < job involvement organizational support

Meaningful level: P<0/05

In a general analysis, it was also found that job involvement had very strong effect on creativity among physical education units' employees in Technology University (ESE=0.75; T=24.03; P<0/05).

**Hypothesis No. 4**

Null hypothesis (H0): The organizational creativity model of Technology University has no suitable fitness.

In fact, testing this hypothesis is the same as the test of research model in which the mediator role

of job involvement determined in a relationship between job characteristics and organizational creativity among physical education units' employees in Technology University. The results of PLS showed that all relationships for this model are in a significant level. The main characteristics of employees in physical education units in Technology University had the most effects on job involvement (P<0/05) and could estimate potential creativity, actual creativity and realized organizational support through job involvement (table 4).

Table 4. The results of effectiveness of research model

Rejecting/confirming null hypothesis	T value	The level of meaningfulness	Standard error	Mean of mini-samples	Total estimate of sample	variables
Reject null hypothesis	24/39	•/•••*	•/•3	•/74	•/73	job involvement < Job characteristics
Reject null hypothesis	3/1•	•/•••*	•/••	•/1•	•/16	organizational < job involvement creativity
Reject null hypothesis	14/23	•/•••*	•/•4	•/69	•/69	organizational < Job characteristics creativity

Meaningful level: P<0/05

The summary of key results of fourth hypothesis and research model shown in figure 1 schematically. Also, this model is has suitable fit

because RSq index is higher than 0/5 and variable are related to each other with an acceptable validity.

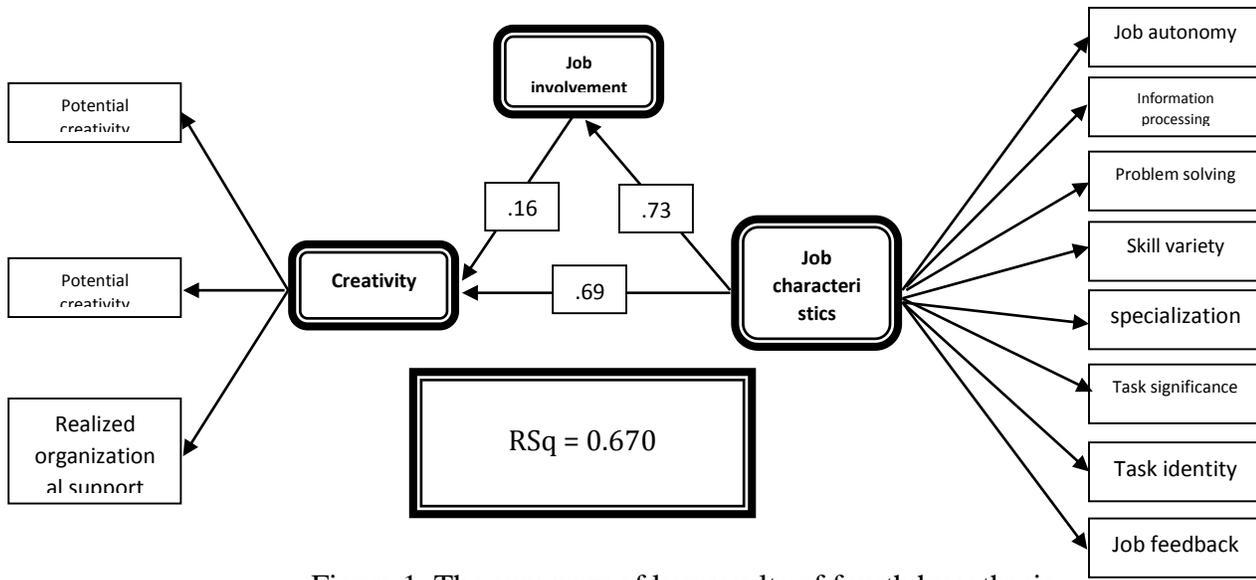


Figure 1. The summary of key results of fourth hypothesis

**Conclusion**

As stated before, the purpose of this study was designing a creativity prediction model based on job characteristics and job involvement among physical education units' employees in Technology University. Therefore, some standard questionnaires were used for data analysis but only organizational creativity questionnaire was not localized in country. For this reason, some part of the present study was to determine the validity and reliability of 17 organizational creativity speech questionnaires in sport. The results were analyzed in several sections. First, exploratory factor analysis was carried out to determine divergent validity and results showed that a single speech (creating new ideas is my favorite work) couldn't show a high correlation with desired factor (potential creativity) and surprisingly correlate with another factor (actual creativity). Of course, the exploration of three factors including potential creativity, actual creativity and realized organizational support was logical the same as Buddha-Grove et al. (2014) and Dillylo and Hoghton (2008) research, but in contrast, the estimate of eliminated speech can be generalized to many reasons. Probably, research testing take

in to account the applicable understanding of idea creation for this speech [2,10].

According to speech 12 (individuals are organized in this organization in such a way to do creative work) and speech 16 (individuals in this organization are encouraged to take a risk) which have gained a very high factor load for realized organizational support, it seems that the type of organizing and designing organizational structure of physical education department have generally dynamic characteristics (low formality, decentralization). Of course, as previously stated, decentralization should not be in all decisions of organization but rather, they are decision assignments that are mainly in the domain of work and in the domain of official task descriptions. These assumptions are the same as characteristics considered for professional bureaucracy organizational structures. In this organizational structure, despite decentralization, formality is at a high level. However, it is still suggested that more precautions devoted to the use of this questionnaire in a variety of human resources in sport such as referees, coaches, volunteers, teachers, etc and its reliability and validity stages evaluate more accurately. It is also suggested that, researchers in the future should be able to

analyze the role of job characteristics of staff and union in the emergence of creativity at individual and organizational level. Certainly, creativity at individual and organizational level can bring many implications for sustainable development of sport and other positive organizational and individual aspects.

After initial research and theoretical bases in this field and distribution and data collection, the least square analysis showed that among main characteristics of job in physical education units' employees, job characteristics such as autonomy in work, problem solving, task identity and job feedback positively and expert characteristics negatively effect on job involvement, respectively. According to these results, problem solving was the best predictor of job involvement among physical education units' employees in Technology University. In a general analysis, it was also found that job characteristics have a very strong effect on job involvement among physical education units' employees. These results were contrary to the results of RamzaniNejad et al. (2013). In justifying this contradiction, it should be stated that athletic jobs have different functions at organizational managerial levels since the same characteristics had reversed effect on positive job outcomes. Even, RamzaniNejad et al. (2013) argued that operational level jobs such as coaching (Talebipour et al. 2012), refereeing (RamzaniNejad et al. 2013), teaching (RamzaniNejad et al. 2013) have minimal knowledge characteristics or the organizers of this kind of occupations do not respond well to knowledge characteristics [19, 20]. If this hypothesis accepted, then the value of dividing job characteristics by Grant et al. (2010) will be revealed more and more. In their research, they explicitly argued that there is a fundamental difference between knowledge properties (e.g. problem solving, information processing) and task properties (e.g. task importance, task complexity, task identity) [11] and it was shown in this research and previous research in sport (Klio, 1993) that these differences in sport

occupations return to operational managerial, intermediate and macro levels [13].

Of course, in line with the research results of RamzaniNejad et al. (2013a and b), TalebiPOur et al. (2013) and Klio (1993) it should be mentioned that knowledge properties such as expertise in work for these level of sport occupations will not bring job involvement [19, 20, 17]. Therefore, it is expected that sport designers should use knowledge properties in order to create job involvement among physical education units' employees however they should take precautions in using these types of job characteristics because they should not enrich job with knowledge and information that requires much expertise. But it can be a great step towards the development of job involvement at a level which can make the right but unpredictable decisions at work. Analysis of these effects can be examined from two perspectives. First, job characteristics can create a set of mental states before predicting any attitudinal and behavioral outcomes, and each of them, as a mediator, play undeniable role in estimating job attitudes.

Other results of partial least square tests (PLS) showed that among job characteristics of physical education units' employees, some characteristics such as autonomy at work, problem solving, task importance, task identity and job feedback affect positively and significantly on their creativity among which, job feedback and autonomy at work were the best predictors of creativity among physical education units' employees in Technology University. In a general analysis, it was also found that job characteristics have strong effects on employees' creativity. These results are consistent with the results of Klio (1993). In fact, Klio used the same job characteristics to achieve a way for creating attitudinal and behavioral outcomes for physical education managers in Illinois of United States and showed that autonomy at work is very important in this regard. In this way, evidence suggests that what is important for managers and experts in the field of physical education is the matter of autonomy

and authority at work. This job characteristic not only enhances the creativity of managers and experts of physical education, but also, based on previous studies it would have beneficial mental health outcomes for them [13].

On the other hand, research findings showed that job involvement had a significant and meaningful effect on all aspects of creativity among physical education units' employees and has most effect on realized organizational support component. In a general analysis, it was also found that job involvement had a strong effect on creativity among physical education units' employees. Also, the results of structural equation model of partial least square (PLS) showed that the main occupational characteristics of employees had the most effect on their job involvement and could estimate potential creativity, actual creativity and realized organizational support through job involvement [16]. Therefore, according to past research findings, this study also found that people respond to IT guidelines and their job roles for two possible reasons. First, the implementation of official job tasks can be a step toward socialization and adaptation of individual to job and the second refers to the maintenance of employees in the job. Employees are forced to carry out their duties for not to be fired or dismissed.

Grant et al (2010) showed that features related to task, knowledge and social relations can modify or rectify employees' reactions [12]. However, it can be concluded that most of the employees in the study are at the beginning of their career so that, most of them focused on official tasks and guidelines. These results show that employees' job involvement reported in a moderate to high level. If this hypothesis is accepted that employees are at the beginning of their career, then it should be concluded that inexperienced people have less job involvement. These explanations are in line with Mirhashemi's research (1997) carried out on faculty members [9]. Also, the results showed that responsible experts in different positions in Technology University had more creativity and job

characteristics than other managers and experts. These findings suggest that assigning responsibilities to individuals can increase their creativity. Because in assignment of creativity, job enrichment occurs and these responsibilities give rise to positive motivational and attitudinal outcomes based on job characteristic model theory. So, it is expected that the emergence of such motivational and attitudinal outcomes will cause creativity in individuals.

Since researchers explicitly emphasized the role of human resources in improving performance (Vinand et al. 2014), effectiveness (Eidi 2013) and formulation of future strategic goals in sport organizations (Taylor et al. 2015) [5,10,7], their role was more prominent in this study than before. The results showed that people with high job involvement, can better estimate organizational creativity in terms of human resource competencies, knowledge dissemination and organizational climate. A deeper look can be made that the link between personal goals and career goals will make all employees to change the atmosphere of the organization and improve organizational performance by reducing organizational obsolescence [21].

In other words, when the organizational conditions in governmental organizations tend to collectivization and knowledge sharing, the organization will move towards an innovative and creative environment that results in organizational effectiveness. Therefore, based on the main points of research questionnaires, it is suggested to managers to emphasize on key principles such as rewarding creative people and supporting new ideas in line with organizational goals. On the other hand, collaborative management is another type of open organizational climate that employees have explicitly emphasized on their role in organizational creativity. Participating the organizations' employees in decision making processes and the implementation of ideas create an atmosphere in the organization that promotes human resource development. Nowadays, organizations need human resource

developments to create any kind of cultural, economic and social development. In organizations that have hostile or unfair human relationships, employees will be discouraged to cooperate and express their ideas with management. Managers, who want to have creative employees, should always encourage combating with status quo, acceptance and transformation.

Generally, based on the results of last hypothesis, it should be declared that if managers are looking for organizational creativity, they can create and promote job involvement in their employees. This process can change organizational beliefs and atmosphere and improve human resource competencies in dissemination of knowledge. Such a mechanism has a direct relationship with the creation of new ideas. Because if employees could share good information among each other based on an organizational atmosphere, eventually, good conditions can be created for applicable ideas. On the other hand, the promotion of computer-based technology skills can be another way to create organizational

creativity alongside the internal empowerment of job involvement.

Therefore, by studying previous models it should be concluded that the final model of the research has been able to cover a large part of vague points of previous research and studies. In confirmation of these findings, it should be noted that in job characteristic models of Chazoglu et al. (2011), Panattheque model (2010) and Fulami and Jacobs model (2005) while there were valuable models for the enrichment of individual variable in organization, but there were not able to cover other mediator and dependent variables such as job involvement and creativity. Also, previous models used cause and effect methods and their relationships were the same (e.g. Univar model, 2006 and Chua model, 2006), while, at the present study, a set of individual and organizational variable were used and the role of mediator variable was analyzed. Therefore, the final model of the research shows that the combination of individual and organizational variables can be the origin of progress in sports.

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