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Investigation of the Relationship between Self-determined Motivation and Work Engagement of Faculty Members of Iran University of Medical Sciences

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Abstract

Background & Objective: This study aimed to evaluate the relationship between self-determined motivation and work engagement of faculty members of Iran University of Medical Sciences.

Materials and Methods: This descriptive and correlational study was performed on faculty members of Iran University of Medical Sciences in four schools of health, medicine, paraclinical and behavioral sciences, and mental health. In total, 100 subjects were selected using the Cochran formula. Research tools included work engagement (Salanova and Schaufeli [2002] with 0.99 reliability). In addition, data analysis was performed in SPSS version 21 using normality, correlation, and multiple regression tests.

Results: According to the results, 44% of the subjects were male, and 56% were female. There was a significant and positive correlation between internal, introjected, and self-determined motivation and work engagement of the faculty members. On the other hand, there was a negative and significant relationship between internal and external amotivation and work engagement of the participants. Results indicated that 22% of the variance of work engagement could be predicted based on the dimensions of self-determined work motivation. In addition, 17% of the variance of self-determined motivation could be foreseen according to the dimensions of work engagement.

Conclusion: According to the results of the study, high levels of self-determined work motivation could have positive outcomes, such as work engagement. Given the fact that work motivation could be predicted by the dimensions of work engagement, it is necessary to design methods to maintain a high level of work motivation in faculty members by planners and decision makers of this field.

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Introduction

Faculty members are one of the most important components of the educational system and among the essential elements of development and progress in each country since they make up the main body of each university. Universities of medical sciences require motivated professors as one of the components of education to exert impacts on the education of students and the promotion of community health. Lack of job satisfaction and occupational tension of faculty members might threat their physical and mental health and quality of life and may impede the achievement of individual and social development goals. Motivation is one of the significant tools for inducing the production of effective and efficient results by employees, creating a positive work environment, and successfully implementing the predicted programs (1).

The term “motivation” was first derived from the Latin word "move", which means moving. On the other hand, the “motive” is interpreted as the reason for performing a task or behavior. In other words, no

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behavior is performed without a motive or need. The motivation of human beings, whether conscious or unconscious, is due to their needs. Therefore, motivation or “need” could be defined as an internal feeling and shortage or deprivation that motivates a person to perform a series of activities (2). Another definition of motivation is "the desire to work hard to meet the goals of the organization in such a way that this effort is driven to satisfy some individual needs" (3). It is acknowledged that humans are the most important and, at the same time, the most complicated part of the value creation process in the organization.

Research has shown that 60% of the capabilities of each person are subject to his motivation. In fact, motivation is driving and pulling force that leads to targeted behavior. In addition, motivation is an internal driving force that guides people toward meeting their needs and expectations physiologically and psychologically (4). Numerous theorists have proposed that employees can be motivated by a variety of factors, such as job satisfaction, the possibility of success, and meaningfulness of the job. In this respect, a policy might be adopted so that individuals could determine their individual goals consistent with the organization’s objectives (5).

On the other hand, the most important custodian of educational and research activities in any country is universities. In medical science universities, the quantity and quality of the medical education system depend on the function of each individual. Regarded as part of the input of the medical education system and one of the key elements of the structure of the universities, faculty members’ level of performance is a function of their ability, motivation, and passion for their occupation. Certainly, professors with high levels of work engagement and enthusiasm will train students in a way that they would be turned into effective individuals such as physicians, nurses, pharmacists and other healthcare personnel. In fact, students trained by these professors will play an effective role in the health system of the community (18).

Other activities of the organization will not have the required efficiency and outcome as long as this workforce lacks an acceptable work engagement. Today, the importance of emphasis on motivation and enthusiasm of professors has been acknowledged by academic institutions. In this respect, Roberts et al. marked that education quality could be greatly improved if special attention is paid to the work engagement, motivation and enthusiasm of professors when assigned an academic position (19). Motivation is one of the important tools for inducing the production of effective and efficient results and successful implementation of predicted programs by individuals. Victor Vroom, the management theorist, perceives motivation as a process that influences the choices made by humans or other living entities (10). A management theorist, Victor Vroom introduces motivation as a process that affects the choices made by humans or other living creatures (10).

Universities need motivated professors to affect the training of students as one of the pillars of education (11). Recognition of factors affecting work engagement can contribute to increased productivity and work engagement of faculty members (12). In fact, work engagement is one of the most important factors for the success or failure of a system, which, if neglected, leads to loss of the organization’s resources. Research has shown that 20% effort and 80% motivation are the factors for the success of organizations. Today, the biggest challenge of managers is dealing with unmotivated forces, who have a low level of accountability (13).

In 1990, Kahn introduced this concept to work environments for the first time. According to this scholar, work engagement is using all of one’s existence in performing work-related roles. With a certain level of work engagement, individuals use or express all their physical, cognitive and emotional aspects in performing their role. In addition, employees with work engagement have the audacity in their job. According to Kahn, an individual and a role have interactions in a way that the person devotes his energies to performing the role and expresses himself in the role (24). Furthermore, work engagement is considered as a concept of positive psychology. In fact, Salanova et al. regard work engagement a real and positive thought described by power, sacrifice, and attractiveness. According to these scholars, work engagement increases the desire and satisfaction of individuals to perform a task. In general, work engagement has three dimensions, including: 1) absorption (a sense of detachment from the surroundings and a high degree of concentration on the job, where being detached from the job has some difficulties for employees), 2) vigor (high levels of energy and mental resilience while working), and dedication (determined with a severe mental involvement and a combination of sense of being significant, passion and challenges) (6, 7). Not only work engagement plays a critical role in understanding positive organizational behaviors, but

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also it exerts impacts on guiding the management of human resources and professional health policies in organizations (8).

Enthusiastic employees work with interest and motivation and are proud to work in the organization. In addition, they know the vision, values, goals, and strategies of the organization and work in line with them. These individuals make a voluntary effort beyond their occupational responsibilities to achieve organizational goals. In addition, they are involved with their work physically, emotionally, and cognitively (9). In a research by Naeimi et al. entitled "the relationship between the dimensions of self-determined work motivation in employees", the results were indicative of a positive and significant association between three dimensions of internal, autonomous, and introjected motivation with work engagement and a significant negative correlation between the dimensions that had a low level of self-determination (internal motivation, external amotivation, and amotivation) with work engagement. In addition, regression analysis results demonstrated that the work engagement dimensions of self-determination had a significant relationship with the dimensions of work engagement (absorption, vigor, and dedication). In other words, high levels of self-determined work motivation lead to positive outcomes such as work engagement (8).

Parker et al. reported that individuals with high self-determined motivation have a greater sense of control and work engagement. In contrast, people with low self-determined motivation are more likely to experience overload and physical complaints (9). Lack of work engagement in faculty members can threaten their physical and mental health and quality of life and might impede the achievement of individual and social development goals. Generally, lack of motivation affects decreased presence at the workplace, as well as work quality and quantity. In a study, being uncertain about the future and having no accurate plan job security were introduced as factors involved in the emergence of this issue (21).

Therefore, the present research demonstrates the importance and application of the self-determination theory in the workplace and provides a tool for managers to evaluate the level of employee's occupational motivation and expand their programs to promote better and more effective regulatory styles. Given the direct relationship between motivation and satisfaction with job commitment and performance, recognizing the motivational dimensions of human resources will play a significant role in the growth and dynamism of the university, which could ultimately stop or diminish impotence.

In addition, since work engagement plays an important role in preventing occupational burnout and self-determined motivation evaluates the motivation of individuals from three dimensions of internal and external motivation and amotivation as one of the new motivational approaches, this study aimed to evaluate the relationship between the dimensions of self-determined work motivation and work engagement dimensions of faculty members as a critical component in the education system among faculty members of universities of medical sciences in Iran. Our findings can be used by university authorities and decision-makers to understand the motivation status of faculty members and emphasis on internal and external motivation and relevant effective factors.

Materials and Methods

This descriptive and correlational study was performed on all faculty members of universities of medical sciences of Iran in four schools of health, medicine, paramedical, and behavioral sciences and mental health during fall-winter 2018-2019. After eliminating newly recruited professors and those on the verge of retirement, a total of 142 subjects were selected, and finally, 100 individuals were enrolled in the study.

Ethical considerations and inclusion criteria: receiving approvals from the University's Ethics Committee, obtaining informed consent from the participants, observing confidentiality terms and anonymous filling of questionnaires, and working in schools of health, medicine, paramedical, and behavioral science and mental health.

Exclusion criteria: lack of cooperation, newly recruited (less than three years), being on the verge of retirement (less than three years to retirement).

Data collection method: to measure the work engagement of faculty members and estimate the self-determined motivation, we used the Work Engagement Scale by Schaufeli et al. and Job Motivation Inventory by Codas et al., respectively.

The scale of self-determined motivation: self-determined work motivation was evaluated using Job Motivation Inventory by Codas et al.

This questionnaire is the revised form of the Ryan questionnaire and has been created by Valerand et al. based on the self-determination theory of Deci and Ryan (26). This 20-item questionnaire was applied by Bahrani in Iran. It is notable that each item

encompasses five alternatives that measure five types of motivation, including external regulation, introjected regulation, identified regulation of internal motivation and amotivation. Each subscale has four classes, for which the subjects respond on a five-point scale. The reliability of the questionnaire was reported at the Cronbach's alpha of 0.81 by Rattel et al. (27). The items of the tool are prepared on a five-point Likert scale; accordingly, the lowest and highest scores of each items are one and zero, respectively. In addition, the minimum and maximum scores of the tool are 20 and 100, respectively.

Work Engagement Scale: In this research, we evaluated the work engagement scale by Salanova et al. encompassing three subscales of absorption (six items), vigor (six items), and dedication (five items). This 17-item questionnaire is scored based on a five-point Likert scale. In Iran, the reliability of the scale was confirmed at 93% and 89% by Cronbach's alpha and Split-half methods, respectively. In addition, validity coefficients were reported at 40% using concurrent validity, which showed the desirable validity of the questionnaire. In addition, the total reliability of the scale was estimated at the Cronbach's alpha of 99%. In this scale, the lowest and highest scores of items are one and five, respectively. Moreover, the minimum and maximum scores of the scale are 17 and 85, respectively (28).

Data analysis method: Data analysis was performed in SPSS version 21 using descriptive (frequency, percentage, mean and standard deviation) and inferential (Kolmogorov-Smirnov test, correlation coefficient, and multiple regression) statistics to assess the normal distribution of samples.

Results

Data obtained from the scale and frequency of samples based on demographic characteristics are presented in Table 1.

Table 1: Demographic variables of the research sample

variable		Frequency	Percent
Gender	Male	44	0.44
	Female	56	0.56
	35<	8	0.8
Age	35-45	31	0.31
	45>	61	0.61
	Instructor	4	0.4
Education	Assistant Professor	70	0.70
	Associate Professor	20	0.20
	Professor	6	0.6
Record of	3-10	38	0.38
service	10-20	44	0.44
	20>	18	0.18

The table above illustrates the demographic variables of the subjects in the research sample. The data showed that 44% of the subjects were male and 56% were female. In addition, the mean age of the participants was over 45 years (61%) while the most academic rank of the subjects of assistant professor (70%). Moreover, the longest work experience of the subjects was 10-20 years (44%).

Table 2: Mean and standard deviations of variables

variable	Mean	Std. Deviation
Internal impulsive	2.94	**2.31**
external impulsive	3.77	**2.27**
Introjected Regulation	2.89	**2.14**
Intrinsic Motivation	3.14	**2.06**
Self- Determination	4.04	**2.21**
Career enthusiasm	3.51	**2.28**

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In this research, we aimed to confirm the following hypotheses:

1) There is a relationship between internal motivation and work engagement of faculty members in universities.

2) There is a relationship between external amotivation and work engagement of faculty members in universities.

3) There is a relationship between internal amotivation and work engagement of faculty members in universities.

4) There is a relationship between the introjected dimension of work motivation and work engagement of faculty members in universities.

5) There is a relationship between self-determined work motivation and work engagement of faculty members in universities.

Considering the normality test of the data obtained from the scales and with regard to the level of significance of these tests, the normal distribution of research variables was confirmed. Therefore, parametric tests were exploited (level of significance: self-determined=0.128, work engagement=0.211, internal motivation=0.506, introjected=0.336, internal amotivation=0.258, external amotivation=0.124).

Table 3: Pearson correlation matrix (coefficient) between dimensions of job motivation and Career enthusiasm

	Career enthusiasm
Self- Determination	0.512
external impulsive	-0.204
Introjected Regulation	0.536
Intrinsic Motivation	0.292
Internal impulsive	-0.186

It could be expressed that with the exception of two dimensions of internal and external amotivation, which had a significant negative association with work engagement, other dimensions of work motivation had a significant and positive relationship with work engagement. In this regard, the dimension of introjected motivation had the most association (0.536) with work engagement.

1. Which dimension of self-determined motivation is the most appropriate predictor of work engagement?

In this part of the research, we used simultaneous regression method to evaluate the predicting ability of self-determined motivation in terms of work engagement. First, we were required to assess the statistical assumptions of this test using statistical data. The results showed that the assumptions of the independence of the remaining scores (using Durbin-Watson statistic) and lack of a few co-linear (evaluation of tolerance and VIF indicators) (Lawrence, Gamst, & Garynv) were observed for both regression tests.

Table 4: Regression coefficients to predict job enthusiasm based on self-determination motivation dimensions

	B	standard error	β β	T	Sig.	R	R^2	F	Sig.
Model						0.53	0.22	14.57	0.001
Fixed coefficient	9.06	1.58	-	3.88	0.001				
Self- Determination	0.25	0.11	0.39	2.19	0.001				
external impulsive	0.36	0.16	-0.22	4.28	0.001				
Introjected Regulation	0.47	0.19	0.46	3.55	0.001				
Intrinsic Motivation	0.53	0.21	0.33	3.12	0.001				
external impulsive	0.39	0.17	-0.19	2.19	0.001				

In Table 5, the regression coefficient for prediction of work engagement is presented based on the dimensions of self-determined motivation. The value of the coefficient of determination (R2)

indicated that 22% of the variance of work engagement could be predicted based on the dimensions of self-determined work motivation. In addition, beta coefficients showed that introjected motivation (0.46), internal motivation (0.33), external motivation (0.22), and internal amotivation (0.19) affected work engagement.

2. Which dimension of work engagment is the most suitable predictor of self-determined motivation?

Table 5: Regression coefficients to predict self-determination motivation based on occupational desire dimensions

	B	standard error	β β	T	Sig.	R	R^2	F	Sig.
Model						0.62	0.17	12.26	0.001
Fixed coefficient	11.37	2.19	-	2.96					
Absorbtion	0.32	0.14	0.26	3.14	0.001				
Vigor	0.21	0.12	0.30	2.71	0.001				
Dedication	0.27	0.10	0.21	3.25	0.001				

Regression coefficients have been proposed to evaluate self-determined motivation based on work engagement dimensions.

Discussion

According to the results of the present research, there was an association between self-determined work motivation and work engagement. In addition, while internal, introjected, and self-determined motivation had a positive and significant relationship with work engagement, there was a negative and significant correlation between internal and external amotivation and work engagement of faculty members. The results also indicated that 22% of the variance of work engagement could be predicted by the dimensions of self-determined work motivation, and 17% of self-determined motivation could be anticipated based on the dimensions of work engagement. In this respect, our findings are in line with the results obtained by Springer and Parker et al., Na'ami and Piriaei. Results were also indicative of a positive and significant relationship between self-determined motivation and work engagement of faculty members. In addition, our findings are in congruence with the results of Green Slad, Jameson, Molaei et al., Springer (16), Parker et al. (17), Bucker and Liter (15).

Internal amotivation emerges when individuals think that they lack the necessary skills, abilities and eligibility to perform their tasks. This thought increases the sense of indifference and significantly decreases work engagement and passion. In a study on faculty members of a university in Canada, Hackanen et al. concluded that work engagement and involvement resulted in the development of the occupational performance of the subjects (23), which is consistent with our findings. To explain this issue, it could be expressed that the more professors are passionate about their work, the more they are committed to the organization and their responsiblities, which eventually improves their occupational performance.

In a research by Ostad, paying fair wages, providing welfare facilities, empowering, and ensuring job security were introduced as factors affecting the increase of efficiency (29). In another research by Bakhshi Aliabad, Norouzi and Hosseini, the factor of wage and income as internal and external factors were the most important factors for the creation of work motivation (30). In addition, Hosseinabadi pointed out that three factors of salary, income and occupational safety were the most important motivation factors (31). In his study, Sullivan expressed that factors such as personal gratitude, performance promotion, written gratitude, encouragement and promotion of success, and praise and public acclaim are the most important factors that contribute to the motivation of employees (32). In another study, Densten concluded that internal independence, professional status and payments were

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the most important factors for satisfaction and improved performance of employees (33).

Work engagement is one of the important consequences of internal motivation, which shows the attitudes of individuals toward their work features and indicates the level of efforts dedicated to the job by individuals. Such efforts are made without any force or external motive and only for the pleasure of performing the job. As a level of external motivation which has been internalized autonomously, self-determined motivation leads to the emergence of favorable individual and organizational consequences. In other words, those who are at the self-determined level can synergize themselves with their work and accept it as a part of their values. In such conditions, individuals feel free and have more choices since they know that their work is coordinated with their goals and personal identity. Therefore, they problably have a sense of ownership over the activities of their job and show greater work engagement (34).

Since a small number of individuals are internally motivated upon entering the organziation, paying attention to self-determined work motivation could lead to obtaining important acheivements by organizations. In other words, providing an opportunity that could facilitate the process of coordinating professors with organizational goals could play an important role in increasing the self-determined motivation of individuals and lead to favorable outcomes such as increased work engagement. In explaining the significant association between introjected motivation and work engagement, we can refer to the nature of this regulatory style. In terms of regulation, introjected regulation is similar to external regulation, where behavior is guided by rewards and punishments. However, the difference is that in the introjected regulation, rewards and punishments are employed by individuals themselves and they are less controlled by the external environment and others. In this condition, the beliefs and expectations of a person from himself determine his work attitudes.

On the other hand, as a completely non-autonomous style among self-determination regulatory styles, amotivation is regarded as a state where the individual has no sense of affiliation with the organization and synergy with his work duties and finds no reason for properly performing his tasks. In this condition, the person becomes passive in a way that no internal or external motivation can motivate him in performing his job. It is natural that there is no attachment to the job in this condition and the person dedicates no particular efforts to his job or has no work engagement.

Conclusion

Given the effective role of faculty members, creating motivation in these individuals would lead to the formation of work engagement. The outcome of such a space will be a dynamic environment and the promotion of the scientific status of the country. Faculty members are the main component of the universities of medical sciences. In addition, they play an important role in the promotion of society's health as a pillar of education and training. Motivation is one of the important tools for stimulation of faculty members to perform effective activities in the workplace. Work engagement is a concept of positive psychology and is related to engaging the individual with his work and his interest in his profession. According to empirical studies, this variable improves occupational and organizational performance of the individual and enhances his organziational commitment. In addition, those with high work engagement make extensive and continuous efforts in their job and become one with the organization. These people consider the success and failure of the company as their own success and failure and regard the organization as their own identity. Therefore, special attention must be paid to this part of universities. According to the results of the present study, there was a positive and significant relationship between the dimensions of self-determined work motivation and work engagement of faculty members. On the other hand, professors play a key role in education, research and treatment. Therefore, the interest of professors in their activities in university and hospital environments could be considerably improved by relying on these motivational dimensions. In addition to playing a critical role in understanding positive organizational behaviors, work engagement is also involved in directing and developing human resources management and occupational health policies in organizations.

Some of the major drawbacks of the present research included lack of previous studies, lack of ability to compare the results with similar studies, which limited the generalization of the results, reliance of questionnaires and type of correlation. Therefore, it is suggested that qualitative methods such as interviews be applied in future studies to increase the richness of the study.

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It is recommended that the proper condition be provided in order increase work engagement in faculty members and support of managers and relevant individuals be observed in universities so that the work motivation of faculty members would be enhanced, which could improve their occupational performance. Providing the proper workplace for faculty members along with occupational safety and respect of ethical values of these individuals, elimination of their problems in the university, allocation of salaries and benefits based on qualification, ability and performance, emphasis on observing work justice, application of competence of professors, and revision and improvement of regulations for occupational improvement of faculty members would lay the foundation for improvement of work motivation of faculty members. By doing so, we can increase the commitment of professors to the quality and quantity of their performance, which ultimately leads to their enhanced occupational satisfaction.

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