



# Job Crafting and the Role of Self-efficacy and Engagement in the Academic Jobs

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## Abstract

**Introduction:** Job crafting is the process of making proactive changes in the boundaries composing a job, which are known as mental fences that individuals adopt to define their job's physical, emotional, or cognitive limitations. Job crafting considers the change in the nature of jobs, whether realistically in the form of task crafting and relational crafting, or as cognitive perceptions. In this study, the role of self-efficacy as the antecedent and work engagement as the consequence of job crafting was studied.

**Methods:** The jobs were academic and the sample was selected from faculty members of Shiraz University of Medical Sciences. The research questionnaires were distributed among faculty members of Shiraz University of Medical Sciences. A PLS model is analyzed and interpreted in two stages: the assessment of the reliability and validity of the measurement model, and the assessment of the structural model.

**Results:** The results showed that self-efficacy was positively related to all dimensions of job crafting. Moreover, the triple dimensions of job crafting had a significant positive effect on work engagement. The moderating role of gender and academic level in the relationship between self-efficacy and work engagement was confirmed. However, the results showed that gender did not moderate the relationship between self-efficacy and task crafting.

**Conclusion:** The main novelty of this research is the study of job crafting, self-efficacy and engagement variables considering the moderating role of gender and academic level.

**Keywords:** Job crafting, Self-efficacy, Engagement, Academic jobs.

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## Introduction

Bakker and Demerouti (2014) believe that in the past years many studies focusing on organizational behavior and human resources have made an attempt to answer the question of what factors in a job cause motivation or stress in workers, and why workers sometimes work so enthusiastically that they have difficulty detaching from their work and do not feel the passage of time; however, others in the same jobs experience burnout and lose their motivation (1). One of the important areas brought to attention because of this question is the topics related to job design. Tims and Bakker (2010) suggest that job design includes a set of opportunities and limitations that are defined as a structure of tasks and responsibilities and can affect the people's experience of the work and how it is done (2). Therefore, the theories of job design and job design specialists have been trying to discover what job characteristics in work make workers feel satisfied,

motivates them to pursue organizational goals, and what conditions make them lose their motivation and experience burnout. The process of job design has traditionally been done using the "top-down" approach; that is, managers design the subordinates' jobs and, consequently, it is obvious that jobs with proper design and good work conditions increases the workers' motivation to work. However, obviously, considering the organizations' limitations regarding time, energy, and resources, it is impossible to design jobs based on individual situations of workers (3). Thus, what will the workers who are unhappy with their job design do?

Wrzesniewski and Dutton (2001) proposed a notion that illustrates how workers in such situations actively shape their jobs, so that they can keep themselves motivated at work (4). This process which is known as job crafting has attracted the attention of many researchers. Through behaviors that occur in the context of job crafting, workers develop a "bottom-

up” approach in the job design and play a proactive role in redesign of some aspects of their job to make the job as much attractive as possible for themselves (2, 5, 6). Researchers believe that job crafting is essentially a useful work behavior and this behavior can be related to numerous job outcomes. For example, job crafting can have a positive effect on the level of work engagement or performance (5, 7). Different studies have investigated antecedents and consequences of job crafting. Generally, the results show that job crafting can be an outcome of personal or job-related factors. For example, the workers’ cognitive abilities, proactive personality, and self-regulations, as a part of personal factors, affect the process of job crafting (5, 6, 8, 9) mendeley: {“formattedCitation”: (5,6,8,9. Torabi et al. (2019) tested an exploratory model by investigating the mediating effect of organization engagement in the relationship between perceived supervisor support and intention to leave (10). The proposed direct link between the supervisor’s support and intention to leave was not proven significant. Nafchi et al. (2020) investigated the role of employee perceptions of job characteristics and work environment and person-organizations fit elements in creating tendency toward turnover among the staff in Shiraz University of Medical Sciences (11). SEM revealed that all job characteristic variables, except for the importance of job variable, significantly affected the turnover intention. On the other hand, there are other job-related factors, like supervisor support, task interdependency, and social ties, that can influence job crafting (5, 8, 12, 13). Therefore, the current research aim is to study the relationship between self-efficacy as a personal factor affecting job crafting and work engagement as a personal factor affected by this variable.

The target population of this study was the university faculty members. This statistical population was selected because, despite the importance of these academic jobs, they have been less studied in job crafting researches. That is, one of the under-researched domains in job crafting research is academic personnel, university professors, and researchers. However, the distinct nature of these knowledge jobs is an indication of the need for deep analysis of the subject in these jobs as the academic jobs have more capacity for proactive shaping and academic people are likely to have more capability, desire, and opportunities for conducting this deliberate behavior. Therefore, in an attempt to respond to these gaps, the current research is an attempt to study the job crafting, self-efficacy and engagement variables considering the moderating

role of gender and academic level.

For decades, scholars have used the design of jobs as a starting point to examine how employees experience work in organizations (14) type:”article-journal”,”volume”:”31”},”uris”:[“http://www.mendeley.com/documents/?uuid=6b94e285-7ba2-31d6-afb6-9202a5691155”]”},”mendeley”:{“formattedCitation”:”(14. Thus, studies examining the effect of job design on workers’ attitudes and behaviors, using a top-down approach, have managed to develop a valuable literature on this topic; however, after Wrzesniewski and Dutton (2001) introduced “job crafting”, a different trend of studies emerged which, using a bottom-up approach, examined the proactive behaviors of workers that cause changes in job boundaries (4). According to this theory, workers change their job boundaries in three ways recreating task, relationship and, perception– to fulfill their demands, including making job meaningful.

### *Theory and Hypotheses*

#### *Job Crafting*

Job crafting is the process of making proactive changes in the boundaries composing a job, which are known as mental fences that individuals adopt to define their job’s physical, emotional or cognitive limitations (15). According to Wrzesniewski and Dutton (2001), generally, job crafting occurs in three forms (4):

1. Task Crafting: this occurs when workers change the amount, extent, and type of their jobs. For instance, they may take new tasks or change the way they are done.
2. Relational Crafting: here, workers change the quality or the quantity of their interactions. For example, they may communicate with new people or increase their positive interactions.
3. Cognitive Crafting: here, workers change their jobs cognitive boundaries. In other words, they change their attitudes toward their jobs.

In fact, in the first and second types of job crafting, there are real, concrete changes in the job, while the third one refers to an intangible change in the person’s perception of the job (16, 17). Wrzesniewski and Dutton (2001) believe that there are three general motives behind workers’ engagement in job crafting (4). The first motivating factor is that this gives the workers control over their jobs and the ability to reduce the possibility of negative consequences. Secondly, it enables the workers to depict a positive image of themselves, which in turn helps them earn others’ approval and extend their social relations. Finally, job crafting contributes to fulfillment of

essential human needs of communication and independence. Following Wrzesniewski and Dutton (2001), many researchers expanded the concept of job crafting (4). Some like Leana et al. (2009) categorized job crafting into individual and group level (12). Individual level is a state in which each worker plays a proactive role in shaping her own job, while in group level some workers collaborate to make changes in the shared working goals.

Bakker and Demerouti (2017) developed an alternative conceptualization of job crafting based on job demand–resources theory (JD-R). Based on this theory, job characteristics have a profound effect on the workers' well-being (18). In fact, this model analyzes the interactions between job demands, job resources at workers' disposal, and work outcomes. Job demands refer to some job aspects, which are known to be the main sources of job strain and require the workers' efforts. As work or time strain, role ambiguity and emotional requirements at work can cause problems like fatigue. In fact, job demands include physical, psychological, and organizational aspects of work that require physical and psychological efforts and come at some cost for the individual. However, job resources include physical, psychological, and organizational aspects that are known as the main motivational factors in job and are the necessary means to achieve work goals and, at the same time, provide opportunities for development of workers; that is, they concurrently play both extrinsic and intrinsic motivational roles (19). Considering that job crafting involves changes in job demands or resources, it can be redefined based on this theory. In fact, this strategy can be used as a means of making balance between the demands of each job and its resources. Therefore, any change in job demands is considered a kind of task crafting and changes in job resources are conceptualized as relational crafting. However, researchers believe that considering the subjective and intangible nature of cognitive crafting, its placement in JD-R model is hard (17). Based on this model, Lazazzara, Tims and De Gennaro (2019) introduced four more constructs for measurement of job crafting (20):

1. Increase structural job resources: In this approach, the individual mobilizes and utilizes all of the job features to increase the opportunities of development, diversity, and independence.
2. Increase social job resources: In this approach, the individual utilizes all of the job features to receive feedbacks and social support or to become a coach.
3. Increase challenging job demands: here, the goal is to pursue the demands, which, fulfilling them,

while requiring a lot of effort, would be rewarding.

4. Hindering job demands: here, the goal is to reduce the demanding requirements in the job, like the workload.

Despite the similarities of the two conceptualizations, there are also some differences between them. For example, the goals of job crafting in the early conceptualization, introduced by Wrzesniewski and Dutton (2001), were making work meaningful and developing work identity through making tangible and intangible (conceptual) changes in work, while in the second model, job crafting is a means of dealing with the strains resulting from job demands and involves tangible changes in work (4). However, considering the fact that the dimensions developed for job crafting are different based on a variety of models, researchers, adopting one of the two standpoints, have measured the job crafting concept. The current study adopted the earlier model and the triple dimensions of job crafting, namely task crafting cognitive crafting, and relational crafting, to examine all tangible and intangible work changes among faculty members.

#### *Self-efficacy*

Self-efficacy theory was first introduced by Bandura in 1983. Self-efficacy refers to people's judgment about how they can organize and utilize their cognitive, social, and behavioral skills to deal with a specific situation (21). People's judgment about self-efficacy is a kind of self-assessment on their own performance in specific situations. It is a construct that explains why some individuals cannot or are not eager to behave in a manner that is appropriate for their workplace (22). Self-efficacy affects the cognitive processes in different ways. Because of the effectiveness of people's assessment of their own abilities, self-efficacy can influence their goal setting. People with higher perception of self-efficacy set more challenging goals for themselves and are more committed to those goals. People who have higher self-efficacy, visualize different scenarios of success and then try to implement them, while people who are doubtful about their self-efficacy usually visualize scenarios of failure (21). According to the literature, it seems that self-efficacy is a predictor of proactive behaviors of workers, so before workers engage in these kinds of behaviors, they assess the chance of their behavior resulting in success (23). In other words, workers who predict a high chance of success in shaping their own environment are more likely to adopt proactive strategies. Job crafting is one of the strategies that allows workers to change

the boundaries and features of their job to fulfill their needs or develop their skills (24). Thus, people with high self-efficacy, because of having higher self-confidence and higher assessment of their own abilities, predict a higher rate of success for change in different aspects of their job, while people with lower self-efficacy, who have a low assessment of themselves, predict a lower chance for their success; therefore, they engage less in proactive behaviors such as job crafting. Considering the above points, the current study tests the effect of people's perception of their abilities, or the level of their self-efficacy, on job crafting through the following hypotheses:

H<sub>1</sub>: self-efficacy is positively related to task crafting.

H<sub>2</sub>: self-efficacy is positively related to relational crafting.

H<sub>3</sub>: self-efficacy is positively related to cognitive crafting.

### *Engagement*

The concept of engagement was first introduced by Kahn (1990) (25). He believed that engaged workers had a deep physical, cognitive, and emotional relationship with work and experience work meaningfulness (i.e. receiving reward for focusing on performance), trust, and security in work, as well as a sense of having access to the required physical and psychological resources at work. Schaufeli, Salanova, González-Romá and Bakker (2002) consider engagement as a positive, satisfactory, and work-related state in which the person has an effective relationship with the work and consider herself capable of fulfilling the job demands (26). It has three dimensions: vigor, absorption, and dedication. Absorption means being immersed in work whereby the person hardly stops working and does not feel the passage of time. Vigor refers to trying hard to perform the work admirably and show resistance and endurance in the face of challenges. The third dimension, dedication, which refers to the individual's psychological involvement with work, is a combination of satisfaction, enthusiasm, pride, and challenge. In the past years, the relationship of work engagement and different variables has been studied. Knight, Patterson and Dawson (2017) conducting a meta-analysis, detected 20 work engagement interventions which can have a positive and significant effect on work engagement (27). The study showed that some factors contribute to development or increase of engagement:

- Personal resource building interventions: workers who possess high personal resources such as self-efficacy or self-confidence have a positive assessment of their abilities and believe that they are

capable of achieving wonderful results and fulfill their needs by engaging in work.

- Job resource building interventions: this sort of resources can decrease job demands, facilitate achieving goals, and provide growth and learning opportunities. These variables focus on increasing environmental and job resources such as support, feedback, and independence which can result in work engagement.

- Leadership training interventions: these variables assume that increase in knowledge and skills affect people's perception of job resources and motivate them to engage in work.

- Health promoting interventions: these variables encourage workers to adopt a healthier life style and reduce stress.

Given the effect of job resources on the level of engagement, it seems that since job crafting generally, and its dimensions specifically, make changes in the physical, emotional, and cognitive boundaries of job and, through providing opportunities for growth and development make the job more attractive for people, they can affect the level of engagement. Therefore, in this study the following hypotheses have been investigated:

H<sub>4</sub>: Task crafting is positively related to work engagement.

H<sub>5</sub>: Relational crafting is positively related to work engagement.

H<sub>6</sub>: Cognitive crafting is positively related to work engagement.

### *The Moderating Role of Gender and Academic Degree*

Many studies have examined the effect of gender on people's work-related attitudes, values and orientations (28). For example, considerable evidence suggests that men are highly inclined to overestimate their performance, while women tend to underrate their performance and abilities (29-31). Some other researchers found that men had greater confidence in their abilities than women (32, 33). Therefore, gender can affect people's perception of their self-efficacy (30). However, many studies have shown mixed findings regarding the effect of gender on job crafting. For example, Petrou, Demerouti and Xanthopoulou (2017) found that men were more likely to engage in job crafting than women; however, another study showed opposite results (35). Moreover, there is other evidence suggesting that men and women may differ in their disposition toward each dimension of job crafting (36). Therefore, given the literature on the role of gender differences in the two variables, self-efficacy and job crafting, it seems

that the relationship between gender and these two variables requires more research. Consequently, the current study has investigated the moderating role of gender in the relationship between self-efficacy and job crafting. Therefore, it seems that there is a need for further research on the effect of gender in the relationship between self-efficacy and job crafting. Thus, in this study, the moderating role of gender in the relationship between self-efficacy and job crafting has been investigated.

H<sub>1a</sub>: Gender moderates the relationship between self-efficacy and task crafting.

H<sub>2a</sub>: Gender moderates the relationship between self-efficacy and relational crafting.

H<sub>3a</sub>: Gender moderates the relationship between self-efficacy and cognitive crafting.

The meta-analysis conducted by Rudolph et al. (2017) showed that, in addition to gender, other moderator variables such as tenure, education, work hours, and age are related to different dimensions of job crafting (37). For example, education increases job crafting in some dimensions because education increases the level of people’s knowledge, which in turn, facilitates job crafting. In addition, workers who dedicate more hours to their work are more likely to attain resources such as independence in work. However, studies on self-efficacy show that the level of academic education can affect self-efficacy. For example, Vera, Salanova and Martín-del-Río (2011) studied 166 faculty members of Jaume University in Spain. These people had 5 to 20 years of job experience with three academic work profiles indulging teacher, researcher and manager (38). The results showed that increasing the level of academic education was related to increasing self-efficacy. Given the above and

the fact that faculty members of different academic levels differ in their level of scientific knowledge, the question examined by this study was whether the academic level of faculty members affect their proactive behaviors such as job crafting. Therefore, the following hypotheses were posed:

H<sub>1b</sub>: Academic degree moderates the relationship between self-efficacy and task crafting.

H<sub>2b</sub>: Academic degree moderates the relationship between self-efficacy and relational crafting.

H<sub>3b</sub>: Academic degree moderates the relationship between self-efficacy and cognitive crafting.

*Theoretical Model Development*

Reviewing theoretical literature and background of the topic, in addition to research gaps mentioned in the introduction section, shows the following three points: 1. “job crafting” and its dimensions as an under-researched issue, 2. Not paying much attention to the causes and consequences of “job crafting” issue, and 3. Ignoring the topic among a specific spectrum of scientific jobs such as faculty members. Also, the necessity of dealing with the topic in Iran’s special context is one of the contributions of the present research. The hypotheses in accordance with the research conceptual model are shown in Figure1.

**Methods**

*Participants and Procedure*

The research questionnaires were distributed among faculty members of Shiraz University of Medical Sciences. An attempt to study the whole population at the university implies that the sample size is equal to the population and it is 300. A total of 224 out of 300 professors answered and returned

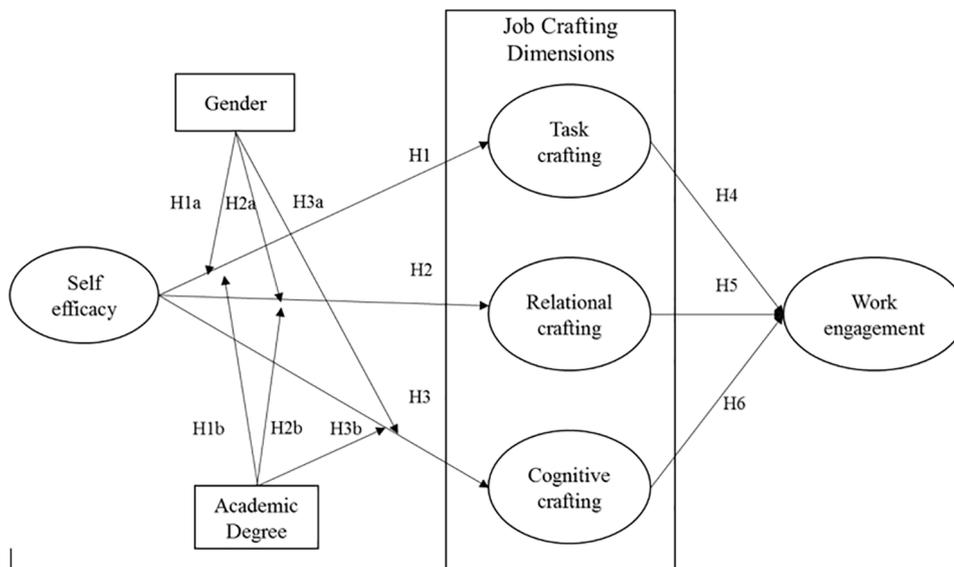


Figure 1: Conceptual model

the questionnaires, of which 218 were usable. Six questionnaires were removed from the data since the number of missing values exceeded 20 percent. Missing values in the remaining questionnaires were handled using case wise deletion. Respondents consisted of 133 men (61 percent) and 85 women (39 percent). 125 respondents were Assistant Professor, 82 were Associate Professor, and 11 were Full Professors. Smart PLS were used for data analysis, allowing for confirmatory factor analysis, as well as hypotheses testing.

### Measures

The following measures were used. The questionnaire was translated into Persian by a bilingual expert.

**Job Crafting.** It consists of 15 items developed by Slemp and Vella-Brodrick (2013) probably because until recently scales with which the construct can be reliably and validly measured were not available. Although a general scale has recently been developed, the cognitive component of job crafting was omitted. The aim of the present study was to address this gap by developing and validating the 15-item Job Crafting Questionnaire (JCQ) (39) probably because until recently scales with which the construct can be reliably and validly measured were not available. Although a general scale has recently been developed, the cognitive component of job crafting was omitted. The aim of the present study was to address this gap by developing and validating the 15-item Job Crafting Questionnaire (JCQ). Five items assess Task Crafting (TC), five items assess Relational Crafting (RC) and five items assess Cognitive Crafting (CC). Likert-type response scale, ranging from 1 (strongly disagree) to 5 (strongly agree), was used for each item.

**Self-Efficacy.** It consists of 10 items developed by Schwarzer and Jerusalem (1995) (40). Likert-type response scale, ranging from 1 (strongly disagree) to 5 (strongly agree), was used for each item.

**Work Engagement.** It consists of 17 items developed by Schaufeli et al. (2002) (26). Six items assess Job Vigor (JV), six items assess Job Absorption (JA) and five items assess Job Dedication (JD). Likert-type response scale, ranging from 1 (strongly dissatisfied) to 5 (strongly satisfied), was used for each item.

### Results

A PLS model is analyzed and interpreted in two stages: the assessment of the reliability and validity of the measurement model, and the assessment of the structural model. Table 1 reports the mean, standard error of the mean (SE mean), standard deviation (SD)

and factor loadings of each item of the questionnaire. Composite reliability (CR) and average variance extracted (AVE) for each construct are also shown in Table 1.

### Measurement Model Evaluation

The first step is to evaluate the measurement model. The PLS algorithm was run using case wise replacement missing value algorithm, path weighting scheme, maximum iterations of 500, an abort criterion of 1.0E-5, and initial weights of 1. Indicator reliability was examined through the evaluation of outer loadings. Multidimensional data with lower than a 0.50 factor loading were eliminated because they were not considered to be within the acceptable range (41)CA", "title": "A primer on partial least squares structural equation modeling (PLS-SEM. Four items were eliminated (TC4, SE4, SE10, and JV4). Internal consistency was examined via composite reliability (CR), which is shown in Table 1, all greater than the threshold of 0.7 (41)CA", "title": "A primer on partial least squares structural equation modeling (PLS-SEM. Convergent validity was examined using the average variance extracted (AVE). An AVE of less than 0.50 indicates that, on average, more errors remain in the terms that the variance explain in the construct (41)CA", "title": "A primer on partial least squares structural equation modeling (PLS-SEM. AVE values were all above the 0.50 thresholds.

### Structural Model Evaluation

The structural model results for collinearity, significance of the path coefficient, and predictive relevance of the path model were examined. Significance of the path coefficient estimated following the bootstrap techniques resampling suggestion of Hair et al. (2016)CA", "title": "A primer on partial least squares structural equation modeling (PLS-SEM (41)CA", "title": "A primer on partial least squares structural equation modeling (PLS-SEM. Table 2 shows the path correlation, SD, T-statistics and the significance levels of each hypothesis. According to the analysis of the PLS model, among the twelve hypotheses, all except for  $H_{1a}$  were supported at a significant level of 0.05.

The goodness of fit (GoF) has been developed as an overall measure of model fit for PLS-SEM. The GoF index was introduced by Tenenhaus, Amato and Esposito (2004) as a global goodness-of-fit measure for PLS-SEM that considers both the Measurement Model and the Structural Model (42). Wetzels, Odekerken-Schröder and Van Oppen (2009) describes GoF values of 0.36, 0.25 and 0.01 as substantial,

**Table 1:** Descriptive statistics and construct validity

Construct	Items	Mean	SE mean	SD	Loading
Job Crafting items adapted from (39)probably because until recently scales with which the construct can be reliably and validly measured were not available. Although a general scale has recently been developed, the cognitive component of job crafting was omitted. The aim of the present study was to address this gap by developing and validating the 15-item Job Crafting Questionnaire (JCQ CR=0.7342 AVE=0.5781	TC1: I introduce new approaches to improve my work.	3.83	0.083	0.742	0.782
	TC2: I change the scope or types of tasks that I complete at work.	3.23	0.084	0.678	0.702
	TC3: I introduce new work tasks that I think better suit my skills or interests.	3.83	0.072	0.842	0.723
	TC4: I choose to take on additional tasks at work.	2.53	0.098	0.721	0.432 <sup>a</sup>
	TC5: I give preference to work tasks that suit my skills or interests.	4.94	0.052	0.734	0.812
	RC1: I make an effort to get to know people well at work.	3.67	0.075	0.832	0.710
	RC2: I organize or attend work related social functions.	4.02	0.061	0.671	0.712
	RC3: I organize special events in the workplace (e.g., celebrating a co-worker's birthday).	3.22	0.075	0.672	0.702
	RC4: I choose to mentor new employees (officially or unofficially).	3.15	0.072	0.812	0.722
	RC5: I make friends with people at work who have similar skills or interests.	4.23	0.053	0.721	0.787
	CC1: I think about how my job gives my life purpose.	4.37	0.065	0.823	0.743
	CC2: I remind myself about the significance my work has for the success of the organization.	3.21	0.072	0.742	0.742
	CC3: I remind myself of the importance of my work for the broader community.	3.32	0.065	0.767	0.762
	CC4: I think about the ways in which my work positively impacts my life.	3.68	0.072	0.832	0.741
	CC5: I reflect on the role my job has for my overall well-being.	3.71	0.072	0.732	0.754
Self-efficacy items adapted from (40) CR=0.7892 AVE=0.5982	SE1: I can always manage to solve difficult problems if I try hard enough	3.53	0.052	0.673	0.723
	SE2: If someone opposes me, I can find the means and ways to get what I want.	3.21	0.057	0.662	0.782
	SE3: It is easy for me to stick to my aims and accomplish my goals.	3.29	0.041	0.621	0.742
	SE4: I am confident that I could deal efficiently with unexpected events.	2.76	0.074	0.772	0.485 <sup>a</sup>
	SE5: Thanks to my resourcefulness, I know how to handle unforeseen situations.	3.23	0.073	0.713	0.725
	SE6: I can solve most problems if I invest the necessary effort.	3.46	0.054	0.722	0.713
	SE7: I can remain calm when facing difficulties because I can rely on my coping abilities.	3.84	0.052	0.643	0.721
	SE8: When I am confronted with a problem, I can usually find several solutions.	3.12	0.071	0.672	0.719
	SE9: If I am in trouble, I can usually think of a solution	3.22	0.073	0.683	0.721
	SE10: I can usually handle whatever comes my way.	2.87	0.098	0.412	0.458 <sup>a</sup>
Job engagement Items adapted from (26) CR = 0.7128 AVE = 0.5145	JV1: When I get up in the morning, I feel like going to work.	3.03	0.072	0.741	0.722
	JV2: At my work, I feel bursting with energy.	3.25	0.067	0.671	0.712
	JV3: At my work I always persevere, even when things do not go well.	3.31	0.067	0.675	0.724
	JV4: I can continue working for very long periods at a time.	2.84	0.052	0.443	0.321 <sup>a</sup>
	JV5: At my job, I am very resilient, mentally.	3.14	0.051	0.777	0.732
	JV6: At my job I feel strong and vigorous.	3.43	0.077	0.734	0.741
	JA1: When I am working, I forget everything else around me.	3.82	0.053	0.643	0.773
	JA2: Time flies when I am working.	3.89	0.075	0.774	0.764
	JA3: I get carried away when I am working.	3.32	0.054	0.656	0.722
	JA4: It is difficult to detach myself from my job.	3.45	0.062	0.653	0.725
	JA5: I am immersed in my work.	3.65	0.071	0.672	0.719
	JA6: I feel happy when I am working intensely.	3.22	0.056	0.673	0.754
	JD1: To me, my job is challenging.	3.01	0.032	0.612	0.704
	JD2: My job inspires me.	3.65	0.082	0.671	0.778
	JD3: I am enthusiastic about my job.	3.47	0.068	0.712	0.738
JD4: I am proud on the work that I do.	3.89	0.073	0.725	0.763	
JD5: I find the work that I do full of meaning and purpose.	3.73	0.063	0.853	0.787	

<sup>a</sup> Item eliminated due to lower than 0.50 loading. All significant at P<0.01

moderate and weak, respectively (43). In this study, according to the analysis, the rate of this index (GoF) is 0.852, which is strong and acceptable. Considering

the analysis done, the result of hypotheses is shown in the form of path coefficient model in Figure 2.

The moderating effects of gender and academic

**Table 2:** Hypotheses' path coefficients, standard deviations and T-statistics

Path	Path coefficient	STDEV	T-statistics	Supported hypothesis
$H_1$ : SE → TC	0.7854	0.0782	16.5682	Yes
$H_2$ : SE → RC	0.7478	0.0682	12.5612	Yes
$H_3$ :SE→ CC	0.8643	0.0823	21.686	Yes
$H_4$ :TC→ JE	0.8432	0.0742	17.593	Yes
$H_5$ :RC→ JE	0.7358	0.0729	15.892	Yes
$H_6$ :CC→ JE	0.5328	0.0743	3.8539	Yes
$H_{1a}$ : Gender ↓ SE →TC	0.0632	0.0428	1.6327	No
$H_{2a}$ : Gender ↓ SE →RC	0.6843	0.05743	4.7825	Yes
$H_{3a}$ : Gender ↓ SE →CC	0.6855	0.0487	5.477	Yes
$H_{1b}$ : Academic Degree ↓ SE →TC	0.6219	0.0742	5.143	Yes
$H_{2b}$ : Academic Degree ↓ SE →RC	0.6489	0.0729	6.088	Yes
$H_{3b}$ : Academic Degree ↓ SE →CC	0.6379	0.0743	6.843	Yes

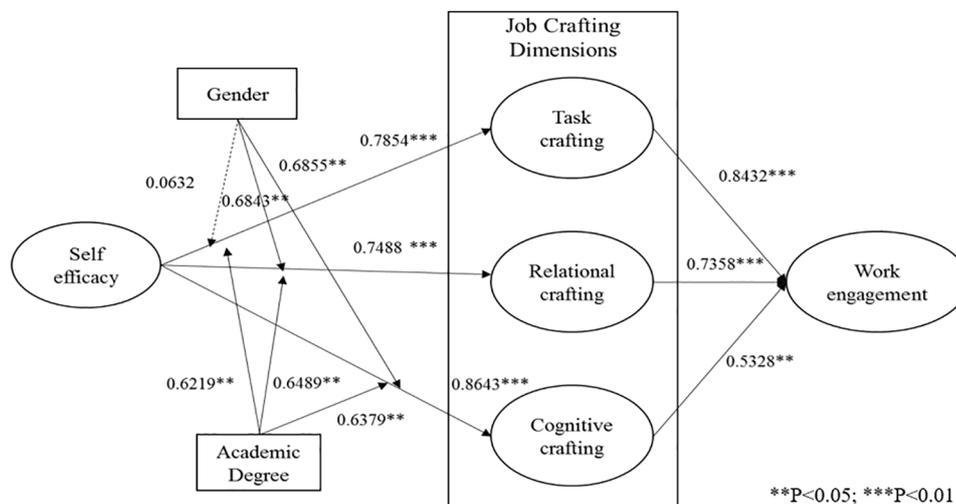
Sig level: P<0.05

degree in the relationship between self-efficacy and job crafting dimensions are shown in Figures 3 and 4.

As shown in Figure 3a, the slope of relationship between self-efficacy and task crafting is relatively equal for men and women. Therefore, the hypothesis  $H_{1a}$  is not supported. In Figure 3b, the slope of the relationship between self-efficacy and relational crafting is stronger for men, and in Figure 3c the slope

of the relationship between self-efficacy and cognitive crafting is stronger for women. Thus, hypotheses  $H_{1b}$  and  $H_{1c}$  are supported.

As shown in Figure 4a, the slope of the relationship between self-efficacy and task crafting is relatively stronger for assistant professors. Therefore, the hypothesis  $H_{2a}$  is supported. In Figures 3b and 3c, the slope of the relationship between self-efficacy



**Figure 2:** Path coefficients results

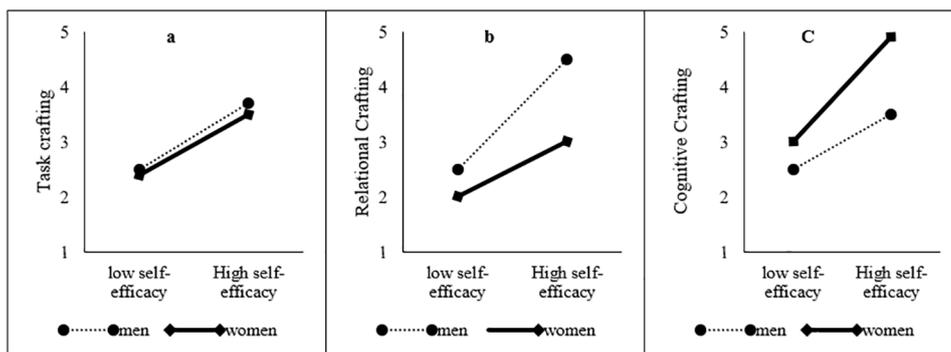


Figure 3: Moderating role of gender

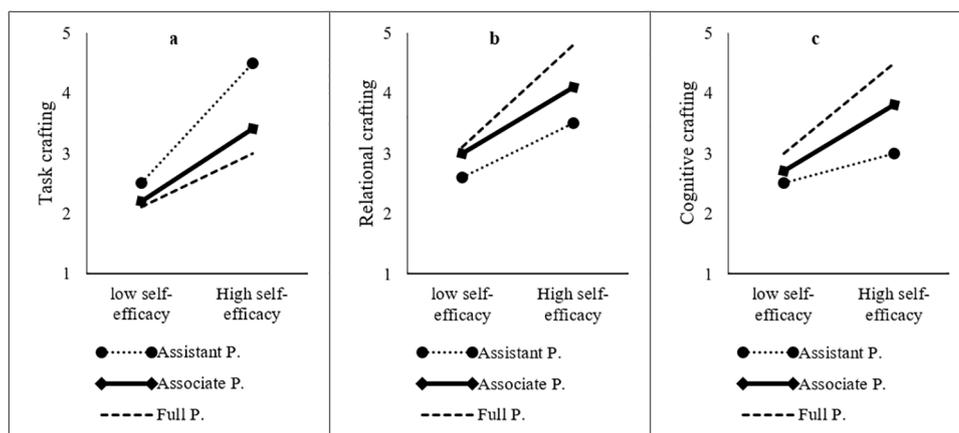


Figure 4: Moderating role of academic degree

and relational/cognitive crafting is stronger for full professors. Thus, hypotheses  $H_{2b}$  and  $H_{2c}$  are supported.

**Discussion and Conclusion**

The current study, using a sample of 218 faculty members of Shiraz University of Medical Sciences, intended to examine the relationship between the dimensions of job crafting as an important mediator variable in the relationship between self-efficacy and work engagement. The results showed that all of job crafting dimensions affected the relationship between self-efficacy and work engagement. Moreover, gender and academic level can moderate the relationship between self-efficacy and some of job crafting dimensions. A more detailed description of the results is as follows:

First, previous studies show that people with higher self-efficacy are more likely to look for opportunities in job that help them learn more or provide them with opportunities to experience a wide spectrum of tasks (6). Similarly, findings of this study confirm that self-efficacy can predict the workers’ proactive behaviors. The level of self-efficacy is positively related to all of job crafting dimensions; in fact, the results confirmed the hypotheses H1, H2, and H3. In line with the existing literature and other researchers’ findings, the results

of the current study show that people who have a higher assessment of their own abilities and consider themselves more likely to succeed engage more in job crafting activities. Self-efficacy expectations contain a motivational component, which determines when, and for how long, engaging in a behavior makes achieving the desired result possible for a person (22). Therefore, self-efficacy is related to job crafting as a proactive behavior of workers to make necessary changes to achieve the desired results.

Second, researchers believe that job crafting has many advantages. For example, it can make a set of changes in the job that, in turn, cause people to feel more meaningful in their jobs (4). In addition, the mechanism of these changes –by itself– can be motivating since it causes more adaptability between the jobs and people’s preferences (44). Dubbelt, Demerouti and Rispens (2019) believe that job crafting, regardless of which one of these mechanisms results in increasing job outputs, increases work engagement through providing more control and learning opportunities (45). Also, workers who engage in different dimensions of job crafting experience more work engagement because of increase in the job resources (46, 47). On the other hand, job crafting plays a mediating role in developing career adaptability and

thus can affect the level of work engagement (48). Results of the current study corroborates that all of job crafting dimensions in the academic jobs have a positive relationship with the level of engagement among university faculty members; this confirms the hypotheses H4, H5, and H6.

Third, Wellman and Spreitzer (2011) investigated the instances of job crafting in knowledge jobs in an incubator (49). Based on the findings of this study, faculty members can, one way or another, focus on the triple dimensions of job crafting to make their job more attractive and more meaningful. More specifically, the current study concentrated on the question of whether the academic level of faculty members can moderate the relationship between self-efficacy and different dimensions of job crafting. The results suggest that, at the higher academic levels, self-efficacy and job crafting have a stronger relationship with relational and cognitive dimensions. More specifically, the impact of higher self-efficacy on relational and cognitive dimensions is greater in full and associate professors than in assistant professors. These two groups can affect their own, and even others' cognition and increase the feeling of meaningfulness through enlarging cognitive perspective. In addition, by leveraging more of their best selves, they focus on the areas affecting others' lives to increase the feeling of meaningfulness in their own jobs. Also, as to relational crafting, they can make necessary adjustments in their jobs through making changes in the quality and quantity of their relationships. For example, many of full and associate professors develop deeper relationships with their students. On the other hand, the results show that in assistant professors, as the lowest academic level in this study, self-efficacy has a stronger relationship with task crafting. It means that academics working in this level of knowledge jobs are more focused on increasing or decreasing of their job boundaries. As also suggested in Wellman and Spreitzer (2011), these people upgrade the quality and meaning of their work by developing knowledge and focusing on specific research topics or engaging in challenging actions and accepting more responsibilities (49). For example, during this study, we encountered some assistant professors that had taken on administrative responsibilities in university management or were doing tasks such as teaching in a more innovative and more challenging way.

Fourth, the moderating role of gender in the relationship between self-efficacy and job crafting was investigated. The results show that the relationship between self-efficacy and task crafting

is consistent in men and women; therefore, we can say that gender does not affect the relationship between self-efficacy and task crafting. However, with regard to other dimensions of job crafting, the results were different. The relationship between self-efficacy and relational crafting is stronger in men while, in women, the relationship between self-efficacy and cognitive crafting is stronger. Therefore, it can be said that women with higher self-efficacy change their viewpoint and perspective toward the job and, by changing cognitive boundaries, make their jobs meaningful. However, self-efficient men turn to moderating the quality and quantity of work relationships to make proactive changes in the job boundaries. For example, in this study, the rate of developing networks of interactions for job crafting was found to be higher among male professors than female ones.

It is recommended that since academic careers have more freedom of action than other occupations, by assigning some tasks such as job description, giving authority and freedom of action in teaching and research methods, providing flexible work arrangements, and so on, the university can help the professors create a sense of self-efficacy and consequently craft their jobs. This also leads to an increase in their job engagement.

As another suggestion, given the complexity of today's jobs and the need to consider the role of employees in designing their jobs, the university can design the structure of the organization and human resource management in a way that can be reflected in voluntary behaviors such as job crafting in task, relational and cognitive forms. These processes in the organization can be affected by several variables, including self-efficacy. As an effective strategy, creating a sense of worth, delegating authority to make decisions, strengthening the sense of self-confidence and appropriateness of the job with the employee at the time of recruitment and attention to issues such as emotional intelligence that are examples of self-efficacy can strengthen job engagement.

Typically, this research had some limitations. the organizational structure of universities is not much hierarchical and the jobs are knowledge-related; therefore, findings of this research are restricted to the academic society and conducting it in other contexts and societies may yield different results. Hence, future research may test these relationships in other sections, or in any industries. Moreover, in this study the variables were measured based on the questionnaires and self-reports, which can result in common method bias.

The future research can use numerous resources available to reduce the potential biases. Finally, in this research the relationship between job crafting and work engagement was examined unilaterally. However, according to Bakker et al. (2012), the workers who experience a higher level of engagement, mobilize their job resources and are more proactively engaged in crafting actions (50). Accordingly, the relationship between job crafting and work engagement may be a bilateral and mutual one; however, in the current research the relationship was examined unilaterally. Future research may focus more on the possibility of these variables having a bilateral relationship though it seems that conducting such research requires longitudinal studies.

**Conflict of Interest:** None declared.

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