

## Prediction of Procrastination Considering Job Characteristics and Locus of Control in Nurses

Mahdieh Sadat Khoshouei<sup>1\*</sup>

<sup>1</sup>Department of Psychology, University of Isfahan, Isfahan, Iran

\*Corresponding author: University of Isfahan, Isfahan.  
E-mail: khoshouei.mahdieh@gmail.com

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### Abstract

**Introduction:** Procrastination is a behavioral habit, described as putting off the tasks. The behavioral habit in nursing profession because of its nature is natural and tangible. On the other hand, procrastination in nursing profession had irreversible negative results and thus doing duties without procrastination is vital. Thus, with regard to the negative results of procrastination in nursing profession, identification of related situational and individual factors is great importance.

**Objective:** This research was carried out with the aim of prediction of procrastination using job characteristics (skill variety, task significance, task Identity, feedback and autonomy) as situational factor and locus of control (internal and external) as individual factor in nurses.

**Materials and Methods:** This research is cross-sectional study with descriptive-correlation method. Statistical population consisted of nurses of Isfahan city in 2011 from which 193 nurses were selected by simple random sampling method. The measurements of study were standard questionnaire include general procrastination scale, job cognition questionnaire, and work locus of control scale. Data analyses were conducted based on descriptive and inferential statistics such as Pearson's correlation coefficient and simultaneous regression analysis.

**Results:** Mean of procrastination (45.59), job characteristics (from 4.64 to 5.46) and locus of control (31.11) scores showed that nurses had medium level of procrastination, high level of job characteristics and external locus of control. Also, results of Pearson's correlation coefficient showed that there were significant negative relationship between procrastination and feedback as a job characteristics ( $p < 0.05$ ,  $r = -0.15$ ) and significant positive relationship between procrastination and external locus of control ( $p < 0.01$ ,  $r = 0.24$ ). Results of simultaneous regression analysis showed that external locus of control with Beta coefficient of 0.22 can predict procrastination ( $p < 0.01$ ).

**Conclusion:** Considering the negative results in nursing profession, medium level of procrastination and high level of job characteristics, negative relationship between procrastination and feedback, positive relationship between procrastination and external locus of control and predictive power external of locus of control in the procrastination level of nurses, it is imperative to present of feedback and establish external locus of control training courses in order to reduce nurses' procrastination.

**Keywords:** Internal-External Control, Job Description, Nurses

## Introduction

Given the continuous diversity and changes in today's world, knowledge by itself is insufficient for the success of any business. However, proper use of time is considered one of the most vital factors in the success of businesses [1]. Proper use of time and doing things on time are an individual and organizational requirement and procrastination or unjustified delay may bring about unfavorable consequences [2]. This issue is more significant, especially in professions that are dealing with human life. Nursing is one of these professions where proper action at the right time greatly contributes to quality [3]. Procrastination in nurses due to heavy workload and constantly rotating shifts is one of the most common problems in nursing [4–6].

However, some experts believe that procrastination has positive effects but most of them believe that the negative effects are more than the positive ones [7]. However, more than 20% of adults experience procrastination in their daily life [8], and in this regard, there is not a remarkable difference in terms of sex [9, 10], levels of education, age groups and work experience [9]. Reducing or preventing this behavior is absolutely necessary [11].

One of the factors leading to procrastination is job characteristics. According to Hackman and Oldham, there are five significant job characteristics: Skills variety (The number of skills to do the job), Task significance (The effects of a job on other people), Task identity (Finishing a job or a part of it by the employee), Autonomy (The freedom of workers to do jobs) and Feedback (Presenting the usefulness of employees by supervisors) [12–13]. Regarding the relationship between procrastination and job characteristics, research indicates a

significant negative relationship between procrastination and autonomy, task significance and feedback [14]. Lonergan & Maher, in another study, found that among various types of procrastinations only procrastination related to decision-making have job characteristics of autonomy, task significance and feedback [15].

Locus of control is an individual factor affecting procrastination [16–19]. The locus of control refers to the extent to which a person can affect his or her own life [20]. Locus of control is either internal or external. People with internal locus of control believe that they are the main makers of their own life and their actions and abilities determine their success and failure. Whereas, people with external locus of control source believe that their success and failure is controlled by external factors such as luck, chance, fate, influential people and unpredictable environmental forces [21]. In the work place, people have beliefs on various issues such as promotion, salary, additions, etc. Those who believe that the rewards received fit their performance in the organization and are based on their efforts and abilities enjoy internal locus of control. On the contrary, those who believe these rewards depend on luck and situation belong to the external source [22]. Accordingly, people with internal locus of control are active and those with external locus of control are passive [23]. Research done on the relationship between the locus of control and procrastination led to different results. Some of the researchers found no relationship between these two variables [24]. Some pointed to the relationship between these two variables [17–19, 25–30].

Identifying the situational and individual factors predicting procrastination plays a crucial role in reducing or preventing

them. Thus, in the present study, in order to investigate the relationship between procrastination and the dimensions of job characteristics (as a situational factor) as well as locus of control (as an individual factor) in nurses, the following questions had been raised:

- 1) What is the relationship between procrastination and dimensions of job characteristics (skills variety, task identity, task significance, autonomy and feedback) in nurses?
- 2) What is the relationship between loci of control (internal and external) in nurses?
- 3) What are the best predictors of procrastination in nurses among job characteristics and locus of control?

### Materials and Methods

This was a cross sectional and descriptive-correlational study. The study population consisted of all nurses in Isfahan, Iran, working at the public and private hospitals in 2011. Among this population, 210 people were selected by random sampling. In the first step, five hospitals in Isfahan were randomly selected (three public hospitals and two private hospitals). Then in each of these hospitals, the researcher received a list of hospital personnel and 210 people were selected according to the inclusion criteria (nurses working in the above hospitals). Then, with permission from relevant sectors and after necessary explanations with regard to questionnaires, voluntarily participation and confidentiality of personal information, consent was obtained and questionnaires were distributed to the nurses. Then, due to excluding uncompleted questionnaires (exclusion criteria), the final sample size was reduced to 193. In relation to the sample size, Tabachnick & Fidell's formula was used ( $N > 50 + 8m$ ) (31). In this formula,  $m$  is the number of predictor variables. Accordingly, in the present

study, there are seven predictor variables (five job characteristics and two loci of control), then there's a need for at least 106 subjects so that the number of 193 nurses in this study is higher than the minimum.

In this research, three instruments were used for data collection. They are as follows:

**General procrastination scale (GPS):** This scale made by Lay featured 20 items and any item had a five-point scale of absolutely wrong (Score 1) to absolutely right (Score 5) of course, some of the items are reversely scored, and the scores ranged from 20 to 100 and a high score in this scale indicated procrastination [32]. The research of lay [32] and Argiropoulou & Ferrari [33] indicated how desirable the validity and reliability of this scale is. Hosseini et al., also confirmed GPS is a single dimension scale having a desirable reliability [34].

**Job cognition questionnaire:** Job cognition questionnaire, made by John Wagner, is a questionnaire with 15 questions measuring the skills variety, task identity, task significance, autonomy and feedback (three questions measure one dimension). *The questionnaire ranges in a 7-point Likert scale*, from absolutely false (1 scores) to absolutely true (7 scores). Some of the questions are reversely scored and the scores in each dimension after averaging ranged from 1 to 7 [35]. The reliability and validity of this questionnaire has been investigated and confirmed in the study of Faraji et al., [12].

**Work locus of control scale (WLCS)** contains 16 items (8 items related to internal locus of control and 8 related the external locus of control) that is set within the six-point Likert scale from strongly disagree (1 score) to strongly agree (6 scores) and the scores ranged from 8 to 48

in each locus of control [22]. This scale has been confirmed in the study of Sprung & Jex [36] and Gholipour et al., [29] as a valid and reliable scale.

After collecting questionnaires, the data was entered into the SPSS 18 software and analyzed using descriptive statistics indexes such as frequency, mean, standard deviation and Pearson's correlation coefficient test to investigate the relationship among variables and simultaneous multiple regression in order to predict the variables of the criteria using predictive variables.

In addition, before conducting regression analysis, the initial analysis was done to ensure no violation of assumptions of normality, linearity, multicollinearity and uniform distribution took place.

## Results

Among 193 nurses, there were 172 females (89.1%) and 21 males (10.9%). Their minimum and maximum age was 23 and 49 ( $37.92 \pm 7.42$ ) and the minimum and maximum job experience was 1 and 29 years ( $12.77 \pm 9.69$ ). The majority of individuals had undergraduate education. The five-demographic characteristics of subjects are shown in table 1. Table 2 provides the mean and the standard deviation of the variables. According to the table, the mean and standard deviation of procrastination is  $45.59 \pm 9.19$ . Also among the dimensions of job characteristics, the highest mean relates to task significance ( $5.46 \pm 1.15$ ) and the lowest mean is related to task identity ( $4.31 \pm 0.96$ ). The dimensions of external locus of control ( $31.11 \pm 8.32$ ) are more than internal locus of control ( $21.12 \pm 5.46$ ).

**Table 1. The demographic characteristics of the study sample**

Demographic variables	Frequency	Percent	
Level of education	Diploma	33	17.1
	Associates	40	20.7
	Bachelors	106	54.9
	Masters	14	7.3
Work experience (year)	Less than 10	149	77.2
	11–20	29	15
	21–30	15	7.8
Age (year)	Less than 30	125	64.8
	31–40	20	10.4
	41–50	48	24.9
Marital status	Married	177	91.7
	Single	16	8.3
Sex	Female	172	89.1
	Man	21	10.9
<b>Total</b>	<b>193</b>	<b>100</b>	

**Table 2. Descriptive indexes of research variables**

Variable		Mean	Standard deviation
<b>Procrastination</b>	Procrastination	45.59	9.19
	Skill variety	5.16	1.28
<b>Job characteristics</b>	Task identity	4.31	0.96
	Task significance	5.46	1.15
	Feedback	4.77	1.22
	Autonomy	4.64	0.98
	External locus of control	31.11	8.32
<b>Locus of control</b>	Internal locus of control	21.12	5.46

**Table 3. The correlation coefficients between procrastination and job characteristics and locus of control**

Variable	Procrastination	Sig.
	The correlation coefficient	
<b>Job characteristics</b>	Skill variety	0.262
	Task identity	0.204
	Task significance	0.284
	Feedback	0.033
	Autonomy	0.190
<b>Locus of control</b>	External locus of control	0.001
	Internal locus of control	0.051

To investigate the research questions, first Pearson's correlation coefficient between the research variables i.e., procrastination and job characteristics (skills variety, task identity, task significance, feedback and autonomy) and locus of control (internal and external) were calculated. Results of the correlation coefficient of these variables are provided in table 3. The

results show that there is a significant negative relationship between procrastination with one of the job characteristics i.e., feedback ( $r = -0.15$  and  $P < 0.05$ ) and there is a significant positive relationship between the external locus of control and procrastination ( $r = 0.24$  and  $P < 0.01$ ).

Table 4. Multiple simultaneous regression to predict procrastination

Variable	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Beta	F	Sig.	t	Sig.	Confidence 95%	
									Upper	Lower
Constant value				-			11.65	0.001	49.96	35.49
Feedback	0.27	0.07	0.06	-14/0	7.59	0.001	-1.94	0.054	0.017	-2.060
External locus of control				0.22			3.21	0.002	0.401	0.096

Then, in order to predict procrastination through job characteristics and locus of control, procrastination was entered in the regression equation as the criterion variable and dimensions of job characteristics and locus of control as the predictive variables. Those predictive variables (i.e. feedback and external locus of control) were entered into the regression equation which was related to the criterion variable (i.e. procrastination).

Table 4 shows that the model is significant as a whole (including feedback and locus of control) ( $P < 0.01$ ). Also the R square in the model shows that the model explains 7% of the variance in the criterion variable such as procrastination. However, due to the standard beta coefficients, the external locus of control, with beta coefficient equal to 0.22, has the strongest significant contribution to predict procrastination.

### Discussion

Based on findings of the study, according to the mean scores on the public procrastination scale, nurses had a relatively moderate procrastination. The findings of the present study are inconsistent with research done in Yazd that suggesting high level of procrastination in nurses [6]. Heavy works and constantly rotating shifts in the nursing profession can be a reason for procrastination among nurses.

Considering the working locus of control scale, the mean score of external locus of control is more than the internal locus of control. However, to the best of the knowledge of the researcher, no research was found regarding the effects of job characteristics and type of locus of control in nurses. High mean score of job characteristics and external locus of control in nurses can be explained such that in nursing, each of the five job characteristics mean score is high. The nurses due to the nature of their jobs should not only possess various skills (skills variety) and fulfill their job completely (task identity). In some cases, taking the right decision (autonomy) plays a crucial role in the lives of patients (task significance) and therefore they get aware of their results (feedback). In addition, job stress in nurses can be the cause of a high external locus of control among nurses.

The other part of the evidence obtained from investigating the correlation suggests two findings: first, there is not a negative relationship between procrastination and one of the job characteristics i.e., feedback. This finding is consistent with the research of Lonergan and Maher, based on the relationship of procrastination in decision-making with feedback [15] However, in their study, procrastination was related to autonomy and task significance which was not found in this study. In explaining such inconsistency, the difference in the type of

procrastination in both studies can be mentioned. In this study, we evaluated the general procrastination, but in Lonergan and Maher's study, procrastination was investigated in decision-making. In explaining the negative relationship between feedback and procrastination, the positive effects of feedback must be mentioned because it is through feedback that nurses become aware of their usefulness or probably their non-usefulness which reduces procrastination in them.

Another finding of the study is the positive relationship between procrastination and external locus of control. This finding is inconsistent with the research showing no relationship between procrastination and locus of control [24]. However, it is consistent with the research done in this field suggesting that people with internal locus of control have lower procrastination [17, 18, 19, 27], efficiently use their time [28], have a higher progress [16], engage more with work [29] and have a higher commitment [30]. The reason for the relationship between external locus of control and procrastination at work perhaps is the fact that people with internal locus of control attribute their success and failures to internal factors. Thus, these people enjoy a more superior and active position against life events. In contrast, individuals with external locus of control believe that they cannot control and dominate life events and attribute life events to external factors such as luck, fate and the strength of other people. As a result, they take a more passive position.

Generally, based on the findings, we can conclude that procrastination exists in all professions and nursing is not an exception. Situational factors such as feedback and individual factors such as external locus of control play an important role in procrastination in this profession.

However, as a limitation of this study, it should be noted that this study was conducted only among nurses working in Isfahan and that procrastination is undesirable in social terms and as the researcher used a self-report tool to measure this characteristic, some cases might not be reported.

Therefore, from a theoretical perspective, it is proposed that other researchers conduct this kind of study in other health centers and on other groups such as doctors and health center staff using different tools such as designing simulated situations. In addition, due to the fact that in other studies, demographic variables such as age, sex, education and work history do not affect procrastination, the researcher did not investigate the effects of demographic variables while trying to find the relationship among procrastination, job characteristics and locus of control. However, it is better to consider these variables for a scrutiny in future research. Taking an applied point of view, given the positive relationship between procrastination and external locus of control, it is proposed that organizations hold training courses to reduce the external locus of control of nurses and as a result reduce their procrastination. Also, due to the positive relationship between procrastination and feedback, it is recommended that heads in health centers provide specific feedback to minimize the rate of procrastination in this profession.

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