

## Introduction

Understanding most of human behaviors is very difficult due to its complexity and is one of the concerns of psychologists and researchers. One of these complex behaviors is procrastination. Procrastination is a habit that exists in many people, so that researchers believe that this trait is one of the inherent tendencies of human. Ellis and Knaus (1) defined procrastination as the tendency to avoid activities, assigning works to future and using apologies to justify the delay in activities. Procrastination has various types but its most common type is academic procrastination. Solomon and Rothblum (2) defined academic procrastination like doing homework, preparation for exam or the term "paper at the last second". Also Rothblum et al (3) defined this type of procrastination as the dominant and permanent tendency of learners to postpone their academic activities that is always associated with anxiety. Its obvious example is to postpone the study of lessons to the night before exam that makes the student involved. Steel (4) showed that the problematic academic procrastination among the bachelor students is estimated at least 70-95%. Academic procrastination among students leads to adverse consequences that not only causes academic failure, lack of gaining the necessary expertise and even expel, but also leads to the loss of their material and spiritual capitals.

The high prevalence of procrastination led to a large number of studies on effective factors in procrastination. Perfectionism is a personality structure and is specified with the features like effort for being perfect and determination of extreme criteria in performance with the tendency to critical evaluation of behavior. (5) Jonson and Slaney (6) raised the hypothesis that procrastination is a behavior that is experienced by perfectionists. Its reason is that the perfectionists want to create the best work, painting or new innovation. Thus they suffer from procrastination due to the too much doubt and thinking and sometimes their final product or work may never be finished and completed. Kagan et al (7) carried out a study on the academic procrastination behavior of students according to perfectionism, obsession and five personality traits of students at different universities and concluded that perfectionism, obsession and personality traits are important variables that explain the academic procrastination behavior. Tamanayi fard and Mansouri Nik (8) in their study explained academic procrastination based on personality traits, perfectionism and life satisfaction of students. The results of this study showed that there is a significant relationship between the personality

traits, perfectionism and life satisfaction with academic procrastination. The results of regression analysis showed that responsibility and perfectionism predicts academic procrastination. Weiner and Carton (9) in framework of opposite styles showed that the aspects of perfectionism that are worried to be evaluated behave in a passive and avoiding way while facing the challenging homework like exam. Thus, the perfectionists that have the fear of evaluation use avoiding approach while facing thesis instead of active involvement with this homework. Thus, they choose procrastination as a strategy to cope with the problem, so that their capabilities would not be evaluated.

Another factor that can be effective in the occurrence of procrastination is irrational beliefs. According to Bernard, irrational beliefs are the demands and goals that become necessary preferences, so that if they are not satisfied, they will cause breakdown. (10) According to Jaradat, the advocates of cognitive theory consider irrational beliefs as the basis of procrastinating behavior. Some learners behave irrationally and avoid finishing their homework when they measure their value only on their abilities to do homework, so that the others would not evaluate their real abilities in doing homework. (11) some cognitive features like certain success expectation (Burka and Yuen ) (12), irrational beliefs (Flett et al ) (13) and fear of failure (2) are seen in perfectionists and procrastinating people. Balkis et al (14) in their study examined the relationship between irrational and rational beliefs, time management for study , exams and academic achievement. The results showed that irrational beliefs have a direct effect on procrastination and time management for study and exams. Beigi in this study examined the relationship between inefficient schema with procrastination and mental health of medical and non-medical students in Shahid Beheshti University of medical sciences. The findings of this study show that there is a positive and significant relationship between primary inefficient schema and procrastination. In general, this study confirms the role of primary inefficient schema in psychological pathology and procrastination. (15) Bridges and Roig (16) studied the role of irrational beliefs and academic procrastination of high school students and believed that there is a correlation between academic procrastination and irrational beliefs of students. After 3 weeks of training how to correct irrational beliefs, a considerable improvement was seen in the academic performance of students.

According to the role of variables of perfectionism, irrational beliefs and procrastination in behavior, health, success and even the failures of human and also since a few studies have been carried out on the effectiveness of these variables on each other in Iran, the present study was performed with the aim of studying the relationship of irrational beliefs and perfectionism and academic procrastination.

### Materials and Methods

The present study was of correlational type. The statistical population of the present study included all female students of the second grade in high schools in 4 areas of Shiraz in academic year 1393-1394. The number of 300 students was selected by multistage clustering sampling method. The measurement tools used in this study included academic procrastination scale (Solomon and Rothblum 1984), 4IBT-A test (Ebadi and Motamedian 1384) and positive –negative perfectionism scale (Terry Short et al 1995). Here, these tools are defined:

#### Research instruments

A) *Academic procrastination scale*: This scale was designed by Solomon and Rothblum (2) and studies 3 components of procrastination in preparation for exam, procrastination in doing homework, procrastination in preparation of final papers. This scale has 27 items that are a 4-point scale from rarely (1), sometimes (2), often (3) and almost always (4) in front of each item. In addition to these 21 questions, 6 questions (7, 8, 18, 19, 26, 27) were considered to measure two features of worry to be procrastinator and tendency to change the habit of procrastination. Items 2, 4, 6, 11, 13, 15, 16, 21, 23 and 25 at this scale is scored reversely. The minimum and maximum scores at this scale are 27 and 108 respectively. Joker et al (19) studied the validity of this scale. The results of factor analysis by main component with varimax rotation confirmed the construct validity of this scale. KMO index value by these researchers was 0/88 and Bartlett's Sphericity coefficient equal to 2158/38 was significant at  $p < 0/001$ . Also, the internal consistency rate as an index for the scale validity was reported as 0/85 for procrastination for exams, 0/86 for procrastination in doing homework and 0/89 for procrastination in preparation of final papers. Also in the study of Joker et al (19), the reliability coefficient of this scale was obtained as 0/91 by using cronbach's alpha. In the study of Hussein Chari and Dehghani (20), the reliability coefficient of this scale was reported as 0/79 by using cronbach's alpha method. In the study of Tamanayi fard and Moqadasin (15) the reliability of *Fundamentals of Mental Health*, 2016 Nov-Dec

this scale was obtained as 0/92 by cronbach's alpha. Hashemian (21) in his study confirmed the validity of this scale by factor analysis method and also obtained the reliability coefficient of this scale as 0/73 and 0/69 by cronbach's alpha coefficients and bisection method for academic procrastination scale that indicate the acceptable reliability of this scale. In the present study, the reliability of this questionnaire was obtained as 0/77 by cronbach's alpha method.

B) *Positive and negative perfectionism scale*: This scale was designed by Terry Short et al (17). It has 40 questions and 20 questions measure positive perfectionism and 20 questions measure negative perfectionism. The question 2-3-6-9-14-16-18-19-21-23-24-25-28-29-30-31-32-34-35 and 37 measure positive perfectionism and the questions 1-4-5-7-8-10-11-12-13-15-17-20-22-26-27-33-36-38-39 and 40 measure the negative perfectionism. The questions measure perfectionism in two aspects of positive and negative by Likert 5-point scale from 1 (totally disagree) to score 5 (totally agree). The minimum score is 20 and maximum score is 100 at each sub scale. In Iran, Besharat (22) in a study entitled as perfectionism and self esteem in pre-university students, obtained the cronbach's alpha coefficients of positive and negative perfectionism scales as 0/90 and 0/97 at a 212-subject sample. He also obtained the internal consistency coefficient of positive and negative perfectionism as 0/90 and 0/97. In the present study, the reliability of this questionnaire was obtained as 0/79 by cronbach's alpha method.

C) *Irrational beliefs - A test (IBT-A)*: This test was designed by Motamedian and Ebadi (18) according to Jones 10 irrational beliefs test (23) by factors analysis method. This test is a valid test related to the measurement of irrational beliefs and is used in different fields like project performance, recognition and treatment by researchers, therapists, counselors, psychologists and students. This test has 40 questions and 4 factors (1. Helplessness for change, 2. Demand for approval, 3. Problem avoidance and 4. Emotional irresponsibility). The questions 1 to 15 are related to the first factor, questions 16 to 25 are related to the second factor, questions 26 to 30 are related to the third factor and questions 31 to 40 are related to the fourth factor. Scoring the questionnaire is based on Likert 5-point scale that is done by allocating the scores (1, 2, 3, 4, and 5) for the options (strongly disagree to strongly agree). The minimum score is 40 and maximum score of this test is 200/ the score between 40-80 shows week irrational beliefs, the score between 80 to 120 shows average irrational beliefs and the score higher than

120 shows strong irrational beliefs in the person. In the study of Motamedian and Ebadi (18), the convergent validity coefficient of 4-IBT-A test was mentioned as 0/87. The total reliability coefficient of the test was obtained as 0/79 by cronbach's alpha. Motamedian et al (24) used cronbach's alpha for the factors and the total test as 0/77, 0/68, 0/59, 0/68 and 0/86. In the present study, the reliability of this questionnaire was obtained as 0/88 by cronbach alpha method.

### Results

At this section, first the descriptive findings of the research variables and then the results of regression analysis that was done to test the hypotheses are presented. Descriptive information including the mean, standard deviation and range of scores of research variables were given in table 1.

As table 1 show, the mean of irrational beliefs is 2/99 and the maximum mean is related to demand for approval and the minimum mean is related to problem avoidance. The mean of positive perfectionism is 3/77, mean of negative perfectionism is 3/32 and mean of procrastination is 2/27.

The first hypothesis of the study stated that: irrational beliefs predict helplessness for change, demand for approval, problem avoidance and emotional effects of academic procrastination.

To test this hypothesis, first the Pearson correlation coefficient was used and its results are seen in the form of correlation matrix in table 2.

As the last row of table 2 shows, there is a significant and direct relationship between helplessness for change, problem avoidance and emotional effects and total irrational beliefs with academic procrastination of students at a level less than 0/01. Then, the simultaneous multiple regression test was used and its results are seen in table 3.

According to table 3, the ratio of F and its significant level shows the significance effect of variables on the regression equation. R<sup>2</sup> or the calculated coefficient of determination is 0/07 according to these variables. In other words, there variables predict 7% of variance of academic procrastination and according to Beta coefficients and significance level of t-value, it can be seen that helplessness for change can positively predict academic procrastination  $p < 0/05$  and  $B = 0/18$  and demand for approval can reversely predict academic procrastination  $p < 0/01$  and  $B = -0/18$ .

The second hypothesis stated that: positive and negative perfectionism predict academic procrastination.

To test this hypothesis, first the Pearson correlation coefficient was used and its results are seen in the form of correlation matrix in table 4.

As the last row of table 4 shows, there is a significant and reverse relationship between positive perfectionism and academic procrastination at a level less than 0/05 and there is a significant and direct relationship between negative perfectionism and academic procrastination at a level less than 0/05. Then, the simultaneous multiple regression test was used and its results are seen in table 5.

Self-regulated learning and its aspects can predict students' academic performance significantly.

In order to examine the hypothesis we applied multiple regression method and the results are shown in table 4.

According to table 5, the ratio of F and its significant level shows the significance effect of variables on the regression equation. R<sup>2</sup> or the calculated coefficient of determination is 0/07 according to these variables. The regression effect (F-16/94) is significant at a level less than 0/01 and the calculated coefficient of determination is 0/10. According to Beta coefficients, positive perfectionism can reversely predict academic procrastination  $p < 0/01$  and  $B = -0/325$  and negative perfectionism can directly predict academic procrastination  $p < 0/01$  and  $B = 0/242$ .

### Discussion

The first hypothesis of the study stated that: irrational beliefs (helplessness for change, demand for approval, problem avoidance and emotional irresponsibility) predict academic procrastination.

The findings showed that although helplessness for change, demand for approval, problem avoidance and emotional irresponsibility have a direct and significant relationship with academic procrastination, the irrational belief of helplessness for change can positively predict academic procrastination and demand for approval can reversely predict academic procrastination. Here is the explanation of each of these results:

The first finding was that helplessness for change has a direct and significant relationship with academic procrastination. Also, it can predict academic procrastination positively and significantly. This findings means that those who are affected by helplessness for change have procrastination in their tasks. This finding is in line with the findings of Balkis et al (11), Bridges and Roig (13), Tohidi et al (25), Beigi (12), Bakhshayesh and Entezari (26), Abdollah Nejad (27), Alizadeh Sahrayi et al (28) and Heydari et al (29). This finding can be explained that helplessness for change means that the person believes that the

past experiences and events determine his/her behavior and their effects cannot be destroyed. Such people have no tendency to create a change because the change needs questioning the past experiences and thoughts. Thus, they use their past experiences and inefficient behaviors in their current affairs and since this false belief and behavior causes many problems, the people continue their procrastination that will bring adverse consequences for them.

The other findings of the present study showed that demand for approval can predict academic procrastination negatively and significantly. This finding means that the person attempts to do the things properly and avoid procrastination in order to be approved by others. This finding is in line with the findings of Bakhshayesh and Entezari (26) and is not in line with the findings of Flett et al (10), Vinning et al (30), Tohidi et al (25), Karimian fard (31), Alizadeh Sahrayi et al (28) and Heydari et al (29). The person who has demand for approval is less self leader, mostly follows the others, does his/her things to satisfy the others or postpones his/her works. Although demand for approval has no significant relationship with academic procrastination but this variable has a significant compound effect with procrastination. It means that demand for approval has no significant relationship with procrastination on its own but it prevents the occurrence of procrastination when it is associated with helplessness for change. It seems that when the confirmation and approval of others is subject to the creation of changes in the person and their more control on his/her behaviors, the person will leave procrastination to obtain or keep this approval.

The other finding of the present study stated that the irrational belief of problem avoidance has a significant and direct relationship with academic procrastination but cannot predict it. This finding means that those who are afraid of facing problems will postpone their tasks and always does procrastination in their affairs. This finding is in line with the findings of Balkis et al (11), Tohidi et al (25), Alizadeh Sahrayi et al (28), Heydari et al (29) and Darunkalayi (32). Since the academic affairs need the effort and tolerance of problems, a direct relationship is established between problem avoidance and academic procrastination. Despite this direct relationship, the irrational belief of problem avoidance cannot predict academic procrastination and it seems that it is due to the predictability of helplessness for change and its correlation to problem avoidance. Because the person must create some changes in him/her and replace new solutions while facing the academic

problems, this belief causes problem avoidance and academic procrastination.

The next finding of the present study was that emotional irresponsibility has a direct and significant relationship with academic procrastination but cannot predict it. This finding means that the person who is affected by emotional irresponsibility considers all his/her concerns and emotional disorders under the influence of external factors. For this reason he does procrastination in most affairs and considers the external factors responsible for this performance, this finding is in line with the findings of Balkis et al (31), Alizadeh Sahrayi et al (28), Heydari et al (29) and Darunkalayi (32). Emotional irresponsibility prevents the on-time performance of academic affairs and causes procrastination. However, despite the positive relationship between this belief and academic procrastination, this belief cannot predict academic procrastination. It seems that helplessness for change affects emotional irresponsibility. In other words, the belief of the lack of change in adverse effects of past unpleasant experiences downplays the role of belief in the involvement of external factors in the occurrence of unpleasant affairs.

The second hypothesis of the study stated that: positive and negative perfectionism predict academic procrastination. In relation to testing this hypothesis, the findings showed that positive perfectionism has a reverse relationship with academic procrastination of students and negative perfectionism has a direct and significant effect with academic procrastination of students. Also positive perfectionism can negatively predict academic procrastination and negative perfectionism can positively predict academic procrastination. Here are the explanations of each of these results.

One of the findings of the present study was that positive perfectionism has a reverse and significant relationship with academic procrastination of students. Also, it can negatively predict academic procrastination. This finding shows that the people with positive perfectionism make effort to achieve their goals and whether the positive perfectionism is more, the probability of procrastination will be less. This finding is in line with the findings of Hashemi and Latifian (33), Sheybani (34), Tamanayi fard and Mansouri Nik (15), Moghadasian et al (35), Hashemi (36), Beyrami et al (42) and are not in line with the findings of Klibert et al (43), Muszynski and Akamatsu (44). The people with positive perfectionism feel free in doing things and make effort to do their best. Also success in doing things strengthens the positive perfectionism and more

effort to achieve higher goals. These people do not postpone their works and do not have a tendency to do procrastination.

The last finding of the present study showed that negative perfectionism has a direct and significant relationship with academic procrastination. This finding indicates that non-normal (negative) perfectionists fail more in doing their tasks and feel unsatisfied due to their unrealistic goals and expectations. Thus, they have a more tendency to do procrastination and the increase of negative perfectionism increases the probability of procrastination in these people. This finding is in line with the findings of Winner and Carton (16), Rice and Dellow (45), Milgram et al (46), Flett et al (10), Hashemi and Latifian (33), Sheybani (34), Tamanayi fard and Mansouri Nik (15), Beyrami et al (35), Hashemi (36), Sheykhi et al (38), Nowruzi (39), Fatehi et al (40), Beyrami et al (42) and is not in line with the findings of Muszynski and Akamatsu (44), Fathi Jahromi (37), and Koruyi et al (41). On the relationship between procrastination and negative perfectionism, it can be said that the person who always thinks about imperfect things and works cannot be satisfied with anything. For

this reason, he/she always does procrastination in beginning his/her works, so that, procrastination in these people is first manifested as making excuse and then as habit.

Family is one of the entities that have the highest effect in the formation of students' beliefs. It is suggested to hold training sessions for families to recognize the irrational beliefs and the methods to correct them.

Since academic procrastination is so much common among students, the parents and teachers are suggested to evaluate helplessness for change in students and correct it.

Holding training sessions for families in order to recognize the negative and positive aspects of perfectionism and their effects on students' procrastination is the last suggestion of the present study.

### **Conclusion**

According to the obtained results, the irrational beliefs of helplessness for change, demand for approval, and negative –positive perfectionism can predict academic procrastination.

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**Table 1.** Descriptive indicators of irrational beliefs variable

Variables	Average weigh	Standard deviation	minimum score	maximum score	
Irrational belief	Helplessnessfor change	3/04	0/64	1/8	4/87
	Demand for approval	3/39	0/74	1/6	5
	Problem avoidance	2/73	0/81	1	4/4
	Emotional irresponsibility	2/79	0/72	1	5
	Total Irrational belief	2/99	0/56	1/73	4/6
Perfectionism	Positive perfectionism	3/77	0/54	2/55	5
	Negative perfectionism	3/32	0/45	2/45	4
Procrastination	Total perfectionism	2/27	0/49	1/06	3/78

**Table 2.** Correlation matrix of irrational beliefs and academic procrastination

variables	1	2	3	4	5	6
Irrational beliefs	Helplessness for change	1				
	Demand for approval	0/45**	1			
	Problem avoidance	0/56**	0/33**	1		
	Emotional irresponsibility	0/60**	0/30**	0/50**	1	
	Total irrational belief	0/83**	0/67**	0/797**	0/778**	1
academic procrastination	0/20**	0/04	0/19**	0/17**	0/17**	1

p&lt;.01\*\* p&lt;.05\*

**Table 3.** Prediction of academic procrastination through irrational beliefs

Variables	R	R <sup>2</sup>	F	P<	β	T	P
Helplessness for change					0/18	2/27	0/02
Demand for approval					-0/18	-2/83	0/005
Problem avoidance	0/27	0/07	6/03	0/001	0/12	1/72	0/08
Emotional Irresponsibility					0/05	0/71	0/47



**Table 4.** Correlation matrix of perfectionism and academic procrastination

Variables	1	2	3
Positive perfectionism	1		
Negative perfectionism	0/38**	1	
Academic procrastination	-0/23*	0/11*	1

p<.0\*\*\* p<.05\*

**Table 5.** Prediction of academic procrastination through perfectionism

Variables	R	R <sup>2</sup>	F	P<	$\beta$	T	P
Positive perfectionism					-0/325	-5/45	0/001
Negative perfectionism	0/32	0/10	16/94	0/001	0/242	3/98	0/001