Article

Prediction of Academic Procrastination by Fear of Failure and Self-Regulation

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Abstract

Academic procrastination is a problem behavior with negative consequences for students. The extent of this phenomenon among students and the negative impact on their academic achievement requires more attention and research on this issue. The present study was conducted with the aim of investigating on the role of fear of failure and subscale of self-regulation (memory strategy goal-setting, self-evaluation, helping assistance, responsibility, organization) in relation with academic procrastination. Therefore, 198 students from different schools of University of Isfahan in Iran were selected by random cluster multistage sampling. *Student's Procrastination Assessment Scale*, *Performance Failure Appraisal Inventory*, and *Sevari's Self-regulation Questionnaire* were used. Data were analyzed by *t*-test, Pearson correlations and linear regression in SPSS-22. Results of *t*-test showed significant differences between male and female students in terms of academic procrastination, organizing, and fear of failure. Male students compared to females scored higher in academic procrastination. Females students compared to males scored higher in fear of failure and organizing. Findings of Pearson correlations showed a positive association between fear of failure and academic procrastination, and a negative association between subscales of self-regulation and academic procrastination. Also, linear regression analyses showed that fear of failure and responsibility predict academic procrastination. As a conclusion, in order to reduce procrastination, some interventions can be delivered by handling in students' fear of failure and self-regulation.

Keywords

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Many students in higher education are not successful and encounter academic failure (Vossensteyn et al., 2015). One of the factors associated with academic failure is academic procrastination (Kim & Seo, 2015; Steel, 2007). Procrastination, usually occurs when one activity is unnecessarily delayed, and individuals experience extremely severe agitation when they start thinking about it (Motie et al., 2012). Procrastination often has negative consequences, such as late delivery of assignments, anxiety and rush to exam preparation, and social anxiety. However, people are fully aware of the negative results of this delay, and this phenomenon can decrease the level of satisfaction among individual performance. The prevalence of this phenomenon is so high that one-fifth of adult population is unable to keep up their daily homework assignments (Klassen et al., 2008).

Procrastination is a pervasive self-regulatory failure affecting approximately a half of the student population (Rozental & Carlbring, 2014). With regard to various emotional, cognitive, and behavioral factors of procrastination, different types of procrastination have been mentioned, including academic procrastination, neurotic procrastination, compulsive procrastination, decisional procrastination, among which academic procrastination comes out top (Jokar & Aghadelavarpour, 2007). Findings from a research study conducted by Chehrzad et al. (2017) showed that 70% of university students had moderate procrastination and 14% of students had sever procrastination, and older age, academic level and gender were the main predictors of procrastination. Symptoms of academic procrastination include poor sleep, high levels of stress, delayed work due to lack of time, improper completion of homework, confusion, self-blame, feelings of guilt and inadequacy, low self-esteem, anxiety, and depression (Custer, 2018). Steel (2007) found that 80% to 95% of students suffered from work problems due to procrastination. Procrastination was also positively related to academic burnout (Abdi Zarrin, Akbarzadeh et al., 2019; Hall et al., 2019).

Academic procrastination is defined, with delays in starting or finishing a task, as an academic assignment which an individual intends to do, but for doing so, it cannot be sufficiently motivating (Sepehrian, 2012). Most studies have identified procrastination as a barrier to academic success (Hen & Goroshit, 2012). Procrastinators generally prefer to spend their time on tasks such as watching TV or seeking joy or pleasure (Akinsola et al., 2007). Solomon and Rothblum (1984) indicated that two main reasons of procrastination are the fear of failures and delinquency of assignments. In a study conducted by Saeed Abbasi and Alghamdi (2015), it has been shown that more than 20% of participants consider the key reason for their procrastination to be phrases such as "you're worried about not being able to meet your expectations" or "you're worried that you cannot get a good score". Fear of failure is referred to as a reaction to the provoking and intimidating outcomes of a failure outbreak (Haghbin et al., 2012). Other research has also considered fear of failures as the reason of procrastination, and it has been suggested that procrastinators deploy their fear of failure as a way to protect their value from harm (Balkis & Duru, 2012). Burka and Yuen (2008) argued that procrastinators set their values on their failures and achievements. Therefore, when they are disappointed with doing a task, they not only consider themselves overcome to perform a task but usually consider themselves as a failed and unsuccessful person.

Other motivational factors associated with procrastination are educational self-regulation (Hosseini & Khayer, 2009; Özer et al., 2009). Consistent with irrationality and intention-behavior discrepancy aspects of procrastinator behavior, various studies suggested that academic procrastination is closely related to a failure in self-regulation. Self-regulation refers to self-generated thoughts, feelings, and behaviors that are oriented to the attainment of personal goals (Park & Sperling, 2012; Zimmerman, 2000). It refers to the way people use to determine when to begin, continue and reach a goal (Zimmerman, 2008). According to Schunk and Zimmerman (1997) self-regulatory processes of education include time planning, precision and focus when teaching and using social resources (Filice et al., 2020; Mikusova, 2019).

Studies have shown that learners with high self-regulation tend to hinder their needs, have inner interest in doing their own assignments, and make more effort to complete their assignments (Darling-Hammond et al., 2019; Sevari & Neisi, 2012). Self-regulation could lead individuals, instead of relying on teachers, parents, and generally the outside world, to personally begin to work and lead this effort (Sevari & Arabzade, 2013; Wigfield et al., 2011). Academic self-regulation is one of the factors affecting academic engagement. It can be said that, perhaps, this is why procrastination is considered a failure in self-regulation. Time management is a strong factor in mediating between procrastination and self-regulation.

Many studies have focused on the relationship between self-regulation and procrastination. However, each of these studies have examined different aspects of self-regulation (Karimi Moonaghi & Baloochi Beydokhti, 2017; Visser et al., 2018). A study by Hossein Chari and Dehghan (2008) examined the relationship between variables of memory strategies, targeting, self-assessment, assistance, accountability, organization, and procrastination and found a negative relation between self-regulation and procrastination. Akmal et al. (2017) conducted a study with the aims of looking at the role of achievement motivation (hope of success and fear of failure) in predicting academic procrastination. Findings showed that the hope of success and fear of failure predicted the academic procrastination. Rahmani Javanmard and Mohammadi (2017) indicated that fear of failure was positively related and predicted academic procrastination. A study conducted by Mohsenzadeh et al. (2016) on high-school students revealed that personality characteristics and fear of failure were significantly correlated with academic procrastination, and 37% of academic procrastination was explained by fear of failure and conscientiousness.

The extent of this phenomenon among students and the negative impact on their academic achievement requires more attention and research on this issue. Furthermore, if individuals' procrastination is not resolved at this time, it might affect students' future and their family. Few studies have analyzed the relationship between fear of failure and procrastination in Iran. Also, little is known about the relationship between fear of failure and self-regulation with academic procrastination. The current research aimed to examine the relation between fear of failure and self-regulation with academic procrastination. It was hypothesized that fear of failure and self-regulation might predict the academic procrastination in university students.

Methods

Participants

Two hundred students of 5 faculties (Foreign Languages, Biology Sciences, Technical Sciences, Educational Sciences and Psychology, and Literature) were selected through random cluster multistage sampling from 6,217 undergraduate students of University of Isfahan in Iran. Participants ($N = 198$) were selected from both genders: 112 were female students with average age of 20.18 and standard deviation of 1.47, and 86 were male students with average age of 20.53 and standard deviation of 1.24.

Instruments

In this study three questionnaires were used to collect information.

Academic Procrastination Scale by Solomon and Rothblum (1984) was used to evaluate the academic procrastination. This instrument was used several times in Iran (Hossein Chari & Dehghan, 2008; Motie et al., 2012). The questionnaire ($\alpha = .76$, in present study) includes 27 items distributed in three components: *Exam preparation*, *Task accomplishments*, and *Writing the final term articles and research papers*. In this scale, several items (7, 8, 18, 19, 26) measured the two components of "disappointment in

procrastination" and "tendency to change the habit of procrastination", which, according to the constructive view of the questions designer, these two components are not considered for calculating reliability and validity (Jokar & Aghadelavarpour, 2007). Items were responded in a 5-point Likert scale (1 = *never*, 2 = *rarely*, 3 = *occasional*, 4 = *most times*, and 5 = *always*). Items 2, 4, 6, 11, 13, 15, 16, 21, 23, and 25 were reciprocally scored.

Performance Failure Appraisal Inventory (PFAI) was developed by Conroy et al. (2002). The instrument was translated to Persian and validated in Iranian samples by Abdoli et al. (2013). The questionnaire includes 25 items answered in a 5-point Likert scale and distributed in 5 subscales: *Fear of experiencing shame and dishonor* (α = .75), *Fear of self-esteem* (α = .49), *Fear of having an unknown future* (α = .46), *Fear of losing important people's interest* (α = .87), *Fear of discomforting important people* (α = .87).

Academic Self-regulated Appraisal developed by Sevari and Arabzade (2013) includes 30 items distributed in six factors: *Memory strategy, Targeting, Self-assessment, Assistance, Accountability,* and *Attendance*. In the present study, the internal consistency of the questionnaire calculated through Cronbach's alpha was .90. Cronbach's alpha for *Memory strategy* was .71, for *Target selection* α = .71, for *Self-assessment* α = .80, for *Assistance* α = .75, for *Accountability* α = .86, and for *Attendance* α = .74. Items were answered in a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*completely agree*).

Procedure

The present study was descriptive-correlational examining the relation between fear of failure, self-regulation, and academic procrastination. The sample of the study was selected using the Cochran formula (1977). The sample size was calculated by Cochran formula $n = \frac{Nz^2pq}{Nd^2+Z^2pq}$. At first, 5 colleges were randomly selected from different faculties in University of Isfahan, and 200 questionnaires were distributed. Participants filled out a consent form, and researchers ensured the preservation of the confidentiality of data. One hundred ninety-eight questionnaires were returned and used for data analysis.

Data Analysis

For analysis of the data SPSS-22 was used. The *t*-test was used to compare variables in the males and females. Pearson correlations were used to determine relationships between procrastination, fear of failure, memory, goal-setting, self-evaluation, help-seeking, responsibility, and organization. Linear regression (stepwise) analyses were used to prediction of dependent variable (*Academic procrastination*) by independent variables (components of self-regulation and fear of failure).

Results

Results of *t*-test for comparing means and standard deviations between male and female students in *Procrastination*, *Memory, Goal-setting, Self-evaluation, Help-seeking, Responsibility, Organization* and *Fear of failure* are presented in Table1. As showed in Table 1, male students compared to females score higher in *Procrastination*. Differences between male and female students were found in *Organizing* and *Fear of failure* indicating higher scores for female students compared to male students.

Table 1. *Results of t-test of variables in males and females*

Variables	Males (n = 86)		Females (n = 112)				
	M	SD	M	SD	df	t	p
1. Procrastination	81.39	1.08	80.89	1.33	196	-2.84	.005
2. Memory	17.06	4.07	17. 66	4.12	196	1.02	.30
3. Goal-setting	8.80	2.82	9.23	2.85	196	1.05	.29
4. Self-evaluation	21.58	4.22	21.68	4.13	196	0.16	.86
5. Help-seeking	22.42	4.14	22. 65	4.14	196	0.38	.70
6. Responsibility	13.20	3.31	13. 22	2.84	196	0.04	.96
7. Organizing	12.40	3.62	20.69	3.95	196	-15.17	.001
8. Fear of failure	68.04	1.66	71.77	1.87	196	14.60	.001

Results of Pearson correlations between *Procrastination, Fear of failure, Memory, Goal-setting, Self-evaluation, Help-seeking, Responsibility* and *Organizing* are presented in Table 2.

Table 2. *Pearson correlations between the study variables*

	1	2	3	4	5	6	7	8
1. Procrastination	1							
2. Fear of failure	.19**	1						
3. Memory	-.19**	-.68	1					
4. Goal-setting	-.15**	-.02	.49**	1				
5. Self-evaluation	-.16**	.09	.44**	.37**	1			
6. Help-seeking	-.21**	-.19**	.52**	.28**	.65**	1		
7. Responsibility	-.41**	.06	.39**	.37**	.43**	.50**	1	
8. Organizing	-78**	-.14	.42**	.30**	.43**	.33**	.46**	1

Note. **p < .01

As showed in Table 2, *Procrastination* positively related to *Fear of failure*. *Procrastination* negatively related to *Memory, Goal-setting, Self-evaluation, Help-seeking, Responsibility* and *Organizing* which suggest that increasing in self-regulation strategies decreases procrastination. *Fear of failure* was negatively related to *Help-seeking*. In addition, positive correlations were found between all subscales of self-regulation.

Results from stepwise linear regression are shown in Table 3. In the first step, results showed that high levels of *Responsibility* predict low *Procrastination* (β = -0.41, $p < .001$). The second step added *Fear of failure* to the model. Results showed that low *Responsibility* (β = -0.40, $p < .001$) and high *Fear of failure* (β = 0.16, $p < .001$) predict high *Procrastination*.

Table 3. *Results of linear regression analysis including predictors of procrastination*

	Variables	R	R^2	β	t	B	p
Step 1	Responsibility	.41	.17	-0.41	-6.29	-1.70	.001
Step 2	Responsibility	.44	.20	-0.40	-6.21	-1.66	.001
	Fear of failure			0.16	2.53	0.11	

Discussion

The present study was conducted to examine the relationship between academic procrastination fear of failure and self-regulatory learning strategies. Findings showed a negative relationship between fear of failure and procrastination, which is in line with previous results indicated by Fatimah et al. (2011). Balkis and Duru (2012) showed that fear of failure and procrastination were associated through self-esteem. It seems that, those who have a weak self-esteem, when they fail, they consider themselves to be defeated in their entirety, so they prefer to take no action for fear of failure. A study conducted by Haghbin et al. (2012), found a positive correlation between fear of failure and academic procrastination among students who feel less deserved and rightful.

Findings of this study showed a negative relationship between academic procrastination and all of the educational self-regulatory sub-scales. Zimmerman (2000) suggested that one of the characteristics of self-regulated individuals is using appropriate learning methods. One of these methods which might facilitate learning is the use of memory strategies such as summarization, the use of note cards, and the fact that self-regulating individuals are less careful could explain the results of our research. Another variable related to procrastination, was purposefulness. Learners who have a target and a plan at the first stage of their activity may be less exposed to procrastination. So, one can expect that the relationship between academic procrastination and target selection might be negative. Students who use metacognitive strategies such as self-esteem, self-assessment, and self-management show higher academic motivation and could be more successful in learning compared to their peers (Motie et al., 2012). The results of an experimental study indicated to effectiveness of cognitive and meta-cognitive learning strategy training by mediating role of self-regulation on academic procrastination in students (Shekholeslami, 2017). Consistent with previous findings (e.g., Motie et al., 2012), our results show that academic procrastination is negatively related to self-assessment. This might suggest that improving in self-assessment it could be possible to control academic procrastination in students.

Procrastination usually appears when learners are low in their self-regulation (Park & Sperling, 2012) and one of the issues that reflects educational self-regulatory processes is the use of various resources, and the results of this study are in line with the results of previous research studies. Some studies (e.g., Shirdel et al., 2018) indicated indirect effects of learning strategies and attribution styles by achievement motivation upon students learning self-regulation. One of the definitions of self-regulation is to keep the thoughts, behavior, and courage in pursuit of a goal (Sevari & Arabzade, 2013), and it could be said there is a negative relation between procrastination and responsibility. The findings of this research on the negative relationship between organization and procrastination are in contradiction with the findings of the research by Motie et al. (2012). However, they are consistent with many studies (e.g., Dietz et al., 2007; Gazidari et al., 2016; Rakes & Dunn, 2010; Steel, 2007). It can be argued that organizing is effort to control the environment for better learning and it is a self-explanatory behavior that reduces the possibility of procrastination in persons.

Among all the variables, the component of responsibility and the fear of failure predicted academic procrastination. It appears that people who have a high sense of responsibility consider themselves more responsible for the learning process, so they include the rest of the self-regulatory components such as target selecting, memory strategy. Furthermore, a responsible person, when asked to do a task in the campus environment, is responsible for completing the task. Thus, responsible people overcome their fears and it may be because of this which initially predicting the responsibility for procrastination.

Studies have reported mixed results with respect to gender in academic procrastination. Similar to previous research (e.g., Nasri et al., 2013; Tavakoli, 2013; Yong, 2010), findings from the current study

showed that males tend to procrastinate more than females. This might suggest that males are at higher risk to academic procrastination. Sharma and Kaur (2011) found that females scored significantly higher than males on fear of failure as a causal factor to procrastination. In line with their findings, current results showed that fear of failure was higher for female students than for male students and significantly predict procrastination.

One of the limitations of the present study refers to the small sample of undergraduate students to examine the relationship between academic procrastination, fear of failure and self-regulatory learning strategies. In future research, representative samples could be used to determine the generalization of the results. Another limitation refers to the study design which was cross-sectional. Therefore, longitudinal studies are recommended to deduce cause and effect from their results.

Results from the current study showed the importance of self-regulation learning strategies and fear of failure in shaping academic procrastination. Thus, it is possible to reduce procrastination by educating self-regulation learning strategy to students and help them reduce the fear of failure. As showed in previous studies, self-regulation learning strategies might reduce academic procrastination (Shekholeslami, 2017). As mentioned, procrastination is a common problem in different societies especially in university students. Previous research findings (e.g., Abdi Zarrin, Nori et al., 2019; Setayeshi Azhari, 2019) showed that high academic procrastination related to low academic achievement in students. Thus, it can be concluded that for academic performance to be successful, it is essential to address the problem of procrastination among university students. In severe cases of academic procrastination in students, they need to be referred to psychologists and counselors for treatment, and the findings so far suggest that cognitive behavioral therapy reduced procrastination more than the other types of interventions (Van Erde & Klingsieck, 2018).

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