

## **Academic Procrastination as a Product of Low Self-Esteem: A Mediational Role of Academic Self-efficacy**

**Syeda Shahida Batool, Sumaira Khursheed, and  
Hira Jahangir**

Govt. College University, Lahore

Academic procrastination is a common behavior among university students. The study was designed to assess the direct and indirect role of self-esteem in academic procrastination through academic self-efficacy among university undergraduate students. The sample comprised of 502 students (210 male and 292 female). The age range of the participants was between 22 to 24 year ( $M = 22.64$ ,  $SD = .77$ ). The Self-efficacy Scale (Pintrich & De Groot, 1990), Rosenberg Self-esteem Scale (Rosenberg, 1965), and Procrastination Assessment Scale for Students (Solomon & Rothblum, 1984) were used to collect the data. Path analysis through structural equation modeling revealed that academic self-efficacy fully mediated the relationship between self-esteem and academic procrastination, and 18 percent of variance in academic procrastination was accounted for by the indirect effect of self-esteem via academic self-efficacy. The independent sample *t*-test further revealed that male students scored significantly higher as compared to female students on academic procrastination.

*Keyword.* Academic procrastination, academic self-efficacy, self-esteem, path analysis, structural equation modeling, university students

Procrastination is a practice of carrying out less crucial tasks instead of more urgent ones, or doing more enjoyable things in place of less enjoyable ones, and thus, delaying urgent tasks to a later time, sometimes to the last moments before the deadline. However, it is dissimilar to simple decision avoidance (Anderson, 2003), where people's real purpose is to delay. Procrastination as a psychological phenomenon has been defined by people from different schools of

---

Syeda Shahida Batool, Sumaira Khursheed, and Hira Jahangir, Department of Psychology, Govt. College University, Lahore, Pakistan.

Correspondence concerning this article should be addressed to Syeda Shahida Batool, Department of Psychology, Govt. College University, Lahore, Pakistan. E-mail: shahidaphe@yahoo.com

thought as individual's delays in beginning or completing an intended course of action (e.g., Ferrari, 1994; Lay & Silverman, 1996), and behavior as a mechanism for coping with the anxiety associated with initiating or completing any task or decision. Procrastination is a disposition which has cognitive, conative, and emotive correlates (Popoolaas cited in Akinsola, Tella, & Tella, 2007). Procrastination is one of the commonly observed phenomena (Steel, 2007) and it needs to be explored by the researchers (Adu, 2014).

Academic procrastination is usually observed in academic activities as in writing term papers, studying for exam, and completing academic assignments (Solomon & Rothblum, 1984; Steel, 2010), and is a common phenomenon among the high school and college level students (Rabin, Fogel, & Nutter-Upham, 2011; Wolters, 2003). A substantial amount of work done on procrastination in university settings suggests that academic procrastination is more frequent among male students as compared to female students (Balkis & Duru, 2009; Khan, Arif, Noor, & Muneer, 2014; Ozer, Demir, & Ferrari, 2009; Prohaska, Morrill, Atilas, & Perez, 2000).

Besides gender differences, academic procrastination is related to personality variables and individual differences along self-esteem, perfectionism, and neuroticism (van Eerde, 2003), and motivational factors, goals, and planning skills (Dietz, Hofer, & Fries, 2007; Howell & Watson, 2007). Some of the studies carried out to measure the tendency to procrastinate have explored the reasons as poor self-efficacy, low self-esteem, distress related to the accomplishment of task, personal characteristics, irrational thoughts, inability to concentrate, fear of failure, poor time management skills, poor problem-solving skills, and working habits (Alexander & Onwuegbuzie, 2007; Watson, 2001).

Given that procrastination can negatively affect learning, achievement, and quality of life; research has been undertaken to recognize the factors that cause and maintain this problematic behavior (Rabin et al., 2011). Freud (1953) was perhaps the first who made an attempt to explain the dynamics of procrastination, as avoiding doing something due to anxiety attached to it. According to Freud, we mostly avoid tasks because they are threat to the ego. In this way, people safeguard ego from the risk of likely failure by delaying tasks. Similarly, Birder (1993) proposes that procrastinators are passive individuals who are hesitant to prove themselves dynamically. However, Ferrari, Johnson, and McCown (1995) criticized the psychoanalytical theory for being hard to be empirically tested. Procrastination is considered as a self-protection of fragile self-esteem or failure at a task that becomes a sign of a low self-esteem and low

self-efficacy. Procrastination serves as an ego protecting mechanism, which is used as a defensive device by people with low self-esteem (Burka & Yuen, 1983; Tice, 1991).

According to appraisal-anxiety theory (Lazarus & Folkman, 1984), procrastination is a function of cognitive appraisal of any task by the person who procrastinates. When an individual faces challenging situation or is supposed to do challenging task, he/she first evaluates his/her capability to manage the task based on self-esteem: A product of past success or failure. If the individual perceives him/her incapacitated to successfully perform the task, it results into the feelings of anxiety and the behavioral outcome and an avoidance to do task is procrastination (Lazarus & Folkman, 1984). The theory highlights the role of self-efficacy as situational self-esteem (Korman, 1976). Steel (2007) validated the claim of appraisal-anxiety theory by his findings that low self-esteem and self-efficacy are related to procrastination. Wolters (2003) also reported procrastination is the result of demotivation attributable to the perception that one lacks the required skills to perform the assigned tasks.

Zimmerman, Bandura, and Martinez-Pons (1992) advocate that individuals who have self-efficacy for self-regulated learning, they know how to manage their learning process by defining applicable goals for themselves and apply suitable strategies to achieve their goals; whereas, lack of self-regulated learning leads to low persistence in pursuing the task and results into procrastination. Self-efficacy theory (Bandura, 1997) illustrates that the way we believe about ourselves significantly affects our task choice; amount of effort and perseverance; and how we eventually perform. Bandura argued that if adequate levels of ability and motivation exist, initial attempts to do and continue to work will sustain. Poor self-efficacy may be involved in avoidance behavior and higher self-efficacy plays a role in the initiation and perseverance in behavior (Bandura, 1985).

Documented studies in the last decade have also explained procrastination through motivation variables such as self-efficacy or self-regulation models (Howell & Watson, 2007; Steel, 2007; Wolters, 2003). Procrastination has appeared to be closely associated with self-efficacy for self-regulated learning. Researchers like Chu and Choi (2005) and Steel (2007) have conceptualized procrastination as a form of self-regulatory failure. Significant inverse relationship exists between self-efficacy for self-regulated learning and procrastination in the student population (Wolters, 2003; Zimmerman et al., 1992). High self-efficacy for self-regulated learning predicts students' expectations of doing well and their low academic procrastination (Tan et al., 2008).

Procrastination is a self-protective strategy that masks a fragile self-esteem. Self-esteem is defined as the judgment of global self-worth (Rosenberg, 1965). Flett, Hewitt, Blankstein, and Koledin (1991) presented procrastination as to safeguard self-presentation. Low level of self-esteem has been reflected as an important factor that results in certain self-defeating attitudes like academic procrastination and low academic achievement. Numerous studies in the last two decades have found a significant inverse relationship between self-reported procrastination and self-esteem (e.g., Adu, 2014; Alves-Martins, Peixoto, Gouveia-Pereira, Amaral, & Pedro, 2002; Beck, Koons, & Milgrim, 2000; Ferrari, 1994; Ferrari & Tice, 2000; Saleem & Rafique, 2012; Vahedi, Mostafafi, & Mortazanajad, 2009). Results of various studies demonstrate self-esteem as the core determinant of procrastination (Steel, 2011; Wolters, 2003).

Despite the fact that self-esteem and self-efficacy are different constructs (Lane, Lane, & Kyprianou, 2004), these constructs positively correlate with each other. If a person perceives high self-worth for a particular task, he/she will have higher self-efficacy belief, so there is likely to be a positive correlation between self-esteem and self-efficacy (Bandura, 1997). The literature illustrates that self-efficacy and self-esteem have direct linear relationship with procrastination and performance, which is independent of fear of failure (Bandura, 1997; Judge & Bono, 2001). Bandura illustrates that self-liking does not necessarily bring performance attainments. Some of the research findings have also demonstrated that self-esteem does not directly predict performance. At times, low self-esteem does not directly influence procrastination; rather it lowers self-efficacy belief, which results into procrastination accomplishments (Mone, Baker, & Jeffries, 1995). Therefore, it can be inferred that self-esteem determines self-efficacy rather than self-efficacy determines self-esteem as suggested by Hermann (2005).

The mediational role of self-efficacy in academic procrastination and personal or environmental variables like confidence, motivation, and knowledge of cognitive and meta-cognitive skills is well documented (Klassen, Krawchuk, & Rajani, 2008). Tuckman and Sexton (1992) concluded that academic self-efficacy mediated between external conditions and self-regulated performance, in a way that it led to academic procrastination. Seo (2008) suggests that self-efficacy fully mediates the relationship between perfectionism and procrastination.

There are very few studies carried out in Pakistan that attempted to investigate the determinants of procrastination in the academic setting. This study is an attempt to address this gap in the literature.

The purpose of this study was to determine the relationship of academic procrastination with self-esteem and academic self-efficacy. Based on self-efficacy theory and the role of self-efficacy beliefs as a mediator of behavior (Bandura, 1985), the work of Tuckman and Sexton (1992), and Seo (2008), the purpose of the present study was to assess the mediational role of academic self-efficacy in relationship between self-esteem and academic procrastination. In view of the above literature, it was hypothesized that:

1. There is positive correlation between self-esteem and self-efficacy.
2. There is negative correlation between self-esteem and academic procrastination.
3. There is negative correlation between academic self-efficacy and academic procrastination.
4. Academic self-efficacy mediates the relationship between self-esteem and academic procrastination.
5. Male students score higher on academic procrastination as compared to the female students

Hypotheses 1-3 were formulated to execute the requirements of mediational analysis (Baron & Kenny, 1986).

## Method

### Participants

The sample ( $N = 502$ ) included 210 male and 292 female students (243 students from social sciences and 249 students from natural sciences). The age range of the participants was 22 to 24 year ( $M_{age} = 22.64$ ,  $SD = .77$ ). A purposive sampling technique was applied to recruit the sample from the last semesters of BA/BSc honors of all the social sciences departments (viz., Psychology, Philosophy, Political Science, Statistics, Economics, and Management Studies) and natural sciences (viz., Botany, Biotechnology, Zoology, Sustainable Development, Chemistry, Physics, Electrical Engineering, and Computer Science) departments of GC University, Lahore. This study was the part of a faculty project funded by GC University, Lahore in which the final GPA of the students was also required; therefore, the students from the last semesters were engaged in the study.

**Inclusion/exclusion criteria.** The departments where medium of instruction was not English (e.g., Urdu, Persian, Arabic/Islamiyat) were not included in the study as measures of the study were in English and try-out phase showed that students of these departments found difficulty in understanding the statements in the measures.

## Measures

**Self-efficacy Scale.** It consisted of 9 items (Pintrich & De Groot, 1990), which covered perceived competency and confidence in the academic performance in class (e.g., “I expect to do very well in this class”. “I am sure that I can do an excellent job on the problems and tasks assigned for class”. “I know that I will be able to learn the material for my class”). The test could be administered in both individual and group settings and it was a self-report questionnaire. Participants were instructed to respond to the items on a 7-point Likert scale (1 = *not at all true of me* to 7 = *very true of me*) in terms of their behavior in the class in general. The score ranged from 9 to 63. In the present study, the reliability coefficient was .85.

**Rosenberg Self-esteem Scale.** It was a 10-item scale that measured global self-worth using both negative and positive approach to evaluate the self (e.g., “I feel that I have a number of good qualities”; “At times I think I am no good at all”; “I take a positive attitude toward myself”). The scale was uni-dimensional (Rosenberg, 1965). All items were answered on a 5-point Likert scale format ranging from *strongly agree* = 5 to *strongly disagree* = 1. Items 2, 5, 6, 8, and 9 were reverse scored. Sum of scores for all ten items was treated as total score. The score ranged from 10 to 50. Higher scores indicated higher self-esteem. Reliability and validity of the scale has been well established in documented studies (e.g., Baumeister, Campbell, Krueger, & Vohs, 2003; Ciarrochi, Heaven, & Fiona, 2007). The alpha reliability for the present study was .81.

**Procrastination Assessment Scale for Students (PASS).** It was a 52 item scale consisted of 3 major divisions (viz., Areas of Procrastination, Reasons for Procrastination, and Interest in Changing Your Procrastination) containing 18, 26, and 8 items, respectively. In the current study, only incidence of academic procrastination in 6 major areas (viz., writing a term paper, studying for exam; keeping up with weekly reading assignments, academic administrative tasks; filling out forms, registering for classes, getting ID card, attendance tasks; meeting with your advisor, making an appointment with a professor; university activities in general) was considered. As per instructions provided by the authors of the PASS (Solomon & Rothblum, 1984), the first two scales related to frequency and problems with procrastination were computed. Two questions were asked in each area of procrastination (To what degree do you procrastinate on this task? To what degree is procrastination on this task a problem for you?). Each area contained 3 items. Last item in all

areas was regarding the desire to change procrastination behavior (To what extent do you want to decrease your tendency to procrastinate on this task?). In the current study, six items from all subscales were excluded and the final items that were used to measure academic procrastination were twelve. The sum of the twelve items was computed for total academic procrastination score ranging from 12 to 60. Response options were *Never Procrastinate* = 1, *Almost Never* = 2, *Sometimes* = 3, *Nearly Always* = 4, *Always Procrastinate* = 5). The higher score indicated higher academic procrastination. High academic procrastinators are defined as those who score 36 or above on the scale and low procrastinators are defined as those who score a 35 or below (Hoppe, 2011). The Cronbach alpha in the present study was .78.

### **Procedure**

After the approval of research project from the Advance Studies and Research Board of GC University Lahore, data collection was started. Permission from the chairpersons of all the departments, which were included in the study, was sought to collect data from the students in their compulsory classes, so that all the students could be contacted in a single visit. Students were approached in their classes and the concerned teacher was requested to spare the class to complete a set of questionnaires. Students were briefed before distributing the questionnaires. Students who were absent on the day of data collection were not included in the sample. It took two months to collect data from all the departments. No incentive was given to the students as per university policy. Data from 555 students were collected and 502 sets of questionnaires were found complete in all dimensions, hence, considered suitable for data analyses.

### **Results**

Pearson Product Moment Correlation and the independent sample *t*-test were run by using SPSS 21.0 and mediational path analysis through structural equation modelling (SEM) was run by using AMOS 21.0 version.

Table 1

*Correlations and Descriptive Statistics for Self-esteem, Academic Self-efficacy, and Academic Procrastination (N= 502)*

Variables	<i>r</i>			Range		<i>M</i>	<i>SD</i>
	1	2	3	Min.	Max.		
1 Self-esteem	—	.46**	-.18**	8	50	34.55	8.51
2 Academic self-efficacy	—	—	-.42**	12	49	27.29	8.71
3 Academic procrastination	—	—	—	13	58	33.48	10.05

Note. \*\* $p < .01$ .

Table 1 shows that there is a significant positive correlation between self-esteem and academic self-efficacy. Whereas, significant negative correlations appears for self-esteem and academic self-efficacy with academic procrastination. The first three hypotheses have been confirmed to meet the assumptions for mediation analysis.

Table 2

*Decomposition of Path Analysis (Standardized Effect)*

Predictors	Outcome Variables	Direct Effect	Indirect Effect	Total Effect
Self-esteem	Academic self-efficacy	.464	.000	.464
Self-esteem	Academic procrastination	.000	-.198	-.198
Academic self-efficacy	Academic procrastination	-.427	.000	-.427

Table 2 shows that self-esteem (independent variable) has .00 direct and -.198 indirect effect on academic procrastination (dependent variable) that academic self-efficacy (the mediator) carries to academic procrastination.

In the default Model 1, chi-square value and *df* are zero, TLI= 1, but no values appeared for GFI and RMSEA, and it did not support the fitness of model. When direct non-significant path from self-esteem to procrastination was removed, the estimates of Model 2 showed best fit on all the indices (TLI= 1.00, GFI = 1.00, RMSEA= .000) where chi-square is non-significant.





Figure 1. Model explaining the direct and indirect effect of self-esteem (through academic self-efficacy) on the procrastination.



Figure 2. Mediation model illustrating the indirect effect of self-esteem through self-efficacy on the procrastination level of undergraduate university students.

Figure 1 shows that direct path between academic self-efficacy and academic procrastination is non-significant, so this path was removed in the second model to improve the model.

Figure 1 and Table 2 show that academic self-efficacy has non-significant path to academic procrastination and the model is not fit. However, when non-significant path is removed, Model 2 (see Figure 2) it becomes best fit.

Table 3

*Estimates of Model Fit Indices*

Model	Chi-square	df	p	TLI	GFI	RMSEA
1	.000	0	-----	1.00	---	----
2	.194	1	.659	1.00	1.00	.000

Table 3 shows that in Model 1 chi-square value and *df* are zero, TLI= 1, but no values for two important indices of model fit appear to support the fitness of model. When we removed the direct insignificant path from self-esteem to procrastination, the estimates of model 2 show best fit on all the indices (viz., insignificant value of chi square, and values of TLI, GFI and RMSEA).

Sobel's test (1990) was carried out to see the significance of indirect effect of self-esteem on academic procrastination through the mediation of academic self-efficacy. The result shows significance at

alpha = .01 ( $z = 7.89$ ,  $p = .00$ ). Academic procrastination was fully mediated via academic self-efficacy, as the direct path between self-esteem and academic procrastination is nonsignificant ( $r = .02$ ,  $p = .66$ ). Findings indicate that 18 percent of variance in students' academic procrastination is accounted for by self-esteem through academic self-efficacy (see Figure 2).

Finding along gender differences on academic procrastination shows that there is a significant difference along gender with  $t(500) = 5.41$  at  $p < .000$  with 95% CI [3.15, 6.52]. Male students ( $M = 35.83$ ,  $SD = 8.40$ ) have scored higher than female students ( $M = 30.99$ ,  $SD = 10.80$ ) on academic procrastination. Effect size (Cohen's  $d = .48$ ) shows the moderate level of effect size.

## Discussion

Following the literature that argues that academic procrastination is associated with personal factors, this study examined the association of self-esteem with academic procrastination, and academic self-efficacy as a mediator between this relationship. Gender differences on academic procrastination among university undergraduate students were also assessed.

The results indicated significant positive relationship between self-esteem and academic self-efficacy (see Table 1). Our result coincides with the previous studies (e.g., Pahlavani, Nezhad, & Nezhad, 2015) that high self-esteem empowers and strengthens the self-efficacy belief to do any particular task and vice versa. Significant negative relationships of the self-esteem and academic self-efficacy with academic procrastination support the 'appraisal-anxiety theory' (Korman, 1976), and results coincide with the previous findings (e.g., Hen & Goroshit, 2014; Steel, 2007; Tan et al., 2008; van Eerde, 2003). Among all the variables, in the extant literature that have been studied in association with academic procrastination, variables related to personal qualities and trait have received the supreme attention (Ferrari, 2000; Klassen et al., 2010). Howell, Watson, Powell, and Buro (2006) found academic self-efficacy as the strongest predictor of academic procrastination among the other variables. Chu and Choi (2005) declared procrastination as a form of failure in academic self-efficacy for self-regulated learning.

The results also demonstrate that academic self-efficacy fully mediated the relationship between self-esteem and academic procrastination (see Figure 2). These findings are in line with (Pajares & Valiante, 2002; Seo, 2008) and the findings of Klassen et al. (2008, 2010) that support the relationships between self-efficacy, self-

regulation, and academic procrastination. Mediation role of academic self-efficacy between self-esteem and academic procrastination is also in line with Hen and Goroshit (2014). The results are dissimilar to the work by Hajloo (2014) that concluded that self-esteem mediated the relationship between self-efficacy and trait procrastination. Our results support the notion that procrastinators are people with low self-esteem (Flett et al., 1992) who delay or avoid obligations not just to protect self-esteem by providing an excuse for inadequate performance and negative results, but due to their low academic self-efficacy that is regulated by their low self-esteem. It appears that self-esteem does not directly cause procrastination behavior, but it determines our belief of academic self-efficacy which leads to academic procrastination.

Independent sample *t*-test was applied to see the gender differences on academic procrastination and the results showed that male students scored significantly higher than female students. Our results are in line with the existing literature (e.g., Balkis & Duru, 2009; Khan et al., 2014; Ozer et al., 2009; Prohaska, et al., 2000) that male students usually procrastinate more than female students. The results support the impression that in the academic setting, boys procrastinate on multiple assignments, because they prefer to work under pressure and in one large slot of time rather than in a larger number of smaller blocks of time (Schraw, Wadkins, & Olafson, 2007). Male students normally show resistance (e.g., in the form of procrastination) to control the authority as a result of their inclination to risk taking and rebellion as compared to female students (Balkis & Duru, 2009; Ozer et al., 2009). This could also be one of the reasons of their procrastination in this study. However, our results challenge the researches that illustrate that women are more likely to procrastinate than men (e.g., Washington, 2004).

### **Limitation and Suggestions**

This is an initial study and needs to be further validated on different populations and in relation to other possible predictors of academic procrastination. We studied only two personal factors (viz., self-esteem and academic self-efficacy) in predicting academic procrastination, whereas, the literature reveals that other personal characteristics like, perfectionism and neuroticism (van Eerde, 2003), distress related to the accomplishment of task, irrational thoughts, inability to concentrate, fear of failure, poor time management skills, poor problem-solving skills, working habits (Alexander & Onwuegbuzie, 2007; Watson, 2001), motivational factors, goals and

planning skills (Dietz et al., 2007; Howell & Watson, 2007) also have strong impact on procrastination behavior. So these variables are suggested to be assessed in future studies to see the relative strength of these variables in predicting academic procrastination. Although, this study included a good number of participants, but it utilized self-reported measurements, so we cannot rule out the social desirability factor and the issue of common method variance. The study was carried out in one university that is high merit university, so we should be cautious in generalizing the results. A cross-sectional design was used, so the relationship may not be supposed as causational. Longitudinal studies are recommended to determine causes of academic procrastination.

### **Implications**

The study has implications for academicians, counselors, and educational psychologists that self-esteem of students plays critical role in their academic self-efficacy belief to complete their assignments for securing good grades. If students have lower self-esteem, it weakens academic self-efficacy belief that may result in academic procrastination. Frequent academic procrastination negatively affects their academic achievement and drops their grade that can further lower their self-esteem and this vicious cycle will never stop. Higher scores of boys on procrastination suggest that intervention plans for boys should be designed to modify their attitude of procrastinating on their academic assignments. A qualitative study will help the educators and counselors to explore the reasons of boys' procrastination behavior in the perceptive of Pakistan.

### **Conclusion**

Findings indicate that academic self-efficacy serves as a mediator between self-esteem and academic procrastination. Self-esteem seems to function as an academic self-regulatory mechanism that seems to help in decreasing academic procrastination. It is concluded that self-esteem does not affect academic procrastination directly, but it regulates students' academic self-efficacy that determines the level of academic procrastination. The study has also validated the notion that boys procrastinate more than girls in the academic setting.

## References

- Adu, R. A. (2014). Predictors of indulgence in procrastinating behavior: Demographic variables and self-esteem. *The International Journal of Indian Psychology*, 2(1), 41-56.
- Akinsola, M. K., Tella, A., & Tella, A. (2007). Correlates of academic procrastination and mathematics achievement of university undergraduate students. *Eurasia Journal of Mathematics, Science and Technology Education*, 3(4), 363-370.
- Alexander, E. S., & Onwuegbuzie, A. J. (2007). Academic procrastination and the role of hope as a coping strategy. *Personality and Individual Differences*, 42(7), 1301-1310.
- Alves-Martins, M., Peixoto, F., Gouveia-Pereira, M., Amaral, V., & Pedro, I. (2002). Self-esteem and academic achievement among adolescents. *Educational Psychology*, 22(1), 51-62.
- Anderson, C. J. (2003). The psychology of doing nothing: Forms of decision avoidance result from reason and emotion. *Psychological Bulletin*, 129, 139-167.
- Balkis, M., & Duru, E. (2009). Prevalence of academic procrastination behavior among pre-service teachers, and its relationship with demographics and individual preferences. *The Journal of Theory and Practice in Education* 5(1), 18-32.
- Bandura A. (1985). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Worth Publisher.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, 4(1), 1-44.
- Beck, B. L., Koons, S. R., & Milgrim, D. L. (2000). Correlates and consequences of behavioral procrastination: The effects of academic procrastination, self-consciousness, self-esteem, and self-handicapping. *Journal of Social Behavior and Personality*, 15(5), 3-13.
- Birder, L. (1993). Procrastination: Its role in transference and counter transference. *Psychoanalytic Review*, 80(4), 541-558.
- Burka, J. B., & Yuen, L. M. (1983). *Procrastination: Why you do it, what to do about it*. Reading, MA: Addison-Wesley.

- Chu, A. H. C., & Choi, J. N. (2005). Rethinking procrastination: Positive effects of "active" procrastination behavior on attitudes and performance. *The Journal of Social Psychology, 145*, 245-264.
- Ciarrochi, J., Heaven, P. C., & Davies, F. (2007). The impact of hope, self-esteem, and attribution style on adolescents' school grades and emotional well-being: A longitudinal study. *Journal of Research in Personality, 41*(6), 1161-1178.
- Dietz, F., Hofer, M., & Fries, S. (2007). Individual values, learning routines, and academic procrastination. *British Journal of Educational Psychology, 77*(4), 893-906.
- Ferrari, J. R. (1994). Dysfunctional procrastination and its relationship with self-esteem, interpersonal dependency, and self-defeating behaviors. *Personality and Individual Differences, 17*(5), 673-679.
- Ferrari, J. R. (2000). Procrastination and attention: Factor analysis of attention deficit, boredom, intelligence, self-esteem, and task delay frequencies. *Journal of Social Behavior and Personality, 15*(5), 185-196.
- Ferrari, J. R., Johnson, J. L., & McCown, W. G. (1995). *Procrastination and task avoidance: Theory, research and treatment*. New York, NY: Plenum Press.
- Ferrari, J. R., & Tice, D. M. (2000). Procrastination as a self-handicap for men and women: A task avoidance strategy in a laboratory setting. *Journal of Research in Personality, 34*(1), 73-83.
- Flett, G. L., Hewitt, P. L., Blankstein, K., & Koledin, S. (1992). Components of perfectionism and procrastination in college students. *Social Behavior and Personality, 20*, 85-94.
- Freud, S. (1953). *On aphasia*. New York: International Universities Press.
- Hajloo, N. (2014). Relationships between self-efficacy, self-esteem, and procrastination in undergraduate Psychology students. *Iranian Journal of Psychiatry and Behavioral Sciences, 8*(3), 42-49.
- Hen, M., & Goroshit, M. (2014). Academic self-efficacy, emotional intelligence, GPA, and academic procrastination in higher education. *Eurasian Journal of Social Sciences, 2*(1), 1-10.
- Hermann, K.S. (2005). *The influence of social self-efficacy, self-esteem, and personality differences on loneliness, and depression* (Unpublished Doctoral Dissertation). Department of Psychology, The Ohio State University, Columbus, Ohio.
- Hoppe, C. S. (2011). *Academic procrastination as a predictor of explanatory style in college students*. (Unpublished Honors Thesis). Department of Psychology, Carroll College, Helena: USA.
- Howell, A. J., & Watson, D. C. (2007). Procrastination: Associations with achievement goal orientation and learning strategies *Personality and Individual Differences, 43*(1), 167-78.

- Howell, A.J., Watson, D.C., Powell, R.A., & Buro, K. (2006). Academic procrastination: The pattern and correlates of behavioral postponement. *Personality and Individual Differences*, 40(8), 1519-1530.
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits self-esteem, generalized self-efficacy, locus of control, and emotional stability with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, 86(1), 80-92.
- Khan, M. J., Arif, H., Noor, S. S., & Muneer, S. (2014). Academic procrastination among male and female university and college students. *FWU Journal of Social Sciences*, 8(2), 65-70.
- Klassen, R. M., Krawchuk, L. L., Rajani, S. (2008). Academic procrastination of undergraduates: Low self-efficacy to self-regulate predicts higher levels of procrastination. *Contemporary Educational Psychology*, 33(4), 915-31.
- Klassen, R., Ang, R. P., Chong, W. H., Krawchuk, L. L., Huan, V. S., ... Yeo, L. S. (2010). Academic procrastination in two settings: Motivation correlates, behavioral patterns, and negative impact of procrastination in Canada and Singapore. *Applied Psychology: An International Review*, 59(3), 361-379.
- Korman, A. K. (1976). Hypothesis of work behavior revisited and an extension. *Academy of Management Review*, 1, 50-63.
- Lane, J., Lane, A. M., & Kyprianou, A. (2004). Self-efficacy, self-esteem, and their impact on academic performance. *Journal of Social Behavior and Personality*, 32(3), 247-56.
- Lay, C., & Silverman, S. (1996). Trait procrastination, anxiety, and dilatory behavior. *Personality and Individual Differences*, 21(1), 61-67.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Mone, M. A., Baker, D. D., & Jeffries, F. (1995). Predictive validity and time dependency of self-efficacy, self-esteem, personal goals, and academic performance. *Educational and Psychological Measurement*, 55(5), 716-27.
- Ozer, B., Demir, A., & Ferrari, J. (2009). Exploring academic procrastination among Turkish students: Possible gender differences in prevalence and reasons. *Journal of Social Psychology*, 149(2), 241-257.
- Pahlavani, M., Nezhad, F. N., & Nezhad, N. N. (2015). Relationship between self-esteem with procrastination and self-efficacy among employers of professional and technical organization of Zahedan. *Indian Journal of Fundamental and Applied Life Sciences*, 5, 4882-4889. Available at [www.cibtech.org/sp.ed/jls/2015/01/jls.htm](http://www.cibtech.org/sp.ed/jls/2015/01/jls.htm)
- Pajares, F., & Valiante, G. (2002). Students' self-efficacy in their self-regulated learning strategies: A developmental perspective. *Psychologia*, 45, 211-221.

- Pintrich, P. R., & De Groot, E. V. (1990). Motivation and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82, 33-40.
- Prohaska, V., Morrill, P., Atilas, I., & Perez, A. (2000). Academic procrastination by nontraditional students. *Journal of Social Behavior & Personality*, 15, 125-134.
- Rabin, L. A., Fogel, J., & Nutter-Upham, K. E. (2011). Academic procrastination in college students: The role of self-reported executive function. *Journal of Clinical and Experimental Neuropsychology*, 33(3), 344-357.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Saleem, M., & Rafique, R. (2012). Procrastination and self-esteem among university students. *Pakistan Journal of Social and Clinical Psychology*, 9(3), 50- 53.
- Schraw, G., Wadkins, T., & Olafson, L. (2007). Doing the things we do: A grounded theory of academic procrastination. *Journal of Educational Psychology*, 99(1), 12-25
- Seo, E. H. (2008). Self-efficacy as a mediator in the relationship between self-oriented perfectionism and academic procrastination. *Social Behavior and Personality*, 36(6), 753-764.
- Sobel, M. E. (1990). Effect analysis and causation in linear structural equation models. *Psychometrika*, 55(3), 495-515.
- Solomon, L. J., & Rothblum, E. D. (1984). Procrastination Assessment Scale-Students (PASS). In J. Fischer & K. Corcoran (Eds.), *Measures for clinical practice* (pp. 446-452). New York: The Free Press.
- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, 133(1), 65-94.
- Steel, P. (2010). *The procrastination equation: How to stop putting things off and start getting stuff done*. Toronto: Random House Canada.
- Steel, P. (2011). *The procrastination equation*. Edinburg Gate, Harlow: Pearson Education Limited.
- Tan, C. X., Ang, R. P., Klassen, R. M., Yeo, L. S., Wong, I. Y. F., Huan, V.S., & Chong, W. H. (2008). Correlates of academic procrastination and students' grade goals. *Current Psychology*, 27, 135-144. doi: 10.1007/s12144-008-9028-82
- Tice, D. M. (1991). Esteem protection or enhancement: Self-handicapping motives and attributions differ by trait self-esteem. *Journal of Personality and Social Psychology*, 60(5), 711-725.
- Tuckman, B. W., & Sexton, T. L. (1992). Self-believers are self-motivated; self-doubters are not. *Personality and Individual Differences*, 13(4), 425-428.



- Vahedi, S., Mostafafi, F., & Mortazanajad, H. (2009). Self-regulation and dimensions of parenting styles predict psychological procrastination of undergraduate students. *Iranian Journal of Psychiatry*, 4(4), 147-154.
- vanEerde, W. (2003). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences*, 35(6), 140-18.
- Washington, J. A. (2004). *The relationship between procrastination and depression among graduate and professional students across academic programs: Implications for counseling* (Unpublished Doctoral Dissertation). Texas Southern University, USA.
- Watson, D. C. (2001). Procrastination and the five-factor model: A facet level analysis. *Personality and Individual Differences*, 30(1), 149-58.
- Wolters, C. A. (2003). Understanding procrastination from a self-regulated learning perspective. *Journal of Educational Psychology*, 95(1), 179-87.
- Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal-setting. *American Educational Research Journal*, 29, 663-676.

Received May 18, 2016

Revision received June 1, 2017