

Relationship between academic procrastination and perceived competence, self-esteem and general self-efficacy of nursing students

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Abstract

Context: Academic procrastination leads to dysfunctional learning outcomes in terms of patient care skills, and consequently, the nursing students' knowledge and awareness declines, which is known as a deterrent to their success. On the other hand, perceived competence, self efficacy, and self esteem significantly influence the students' health and proper functioning of the study. Hence, it is important to examine the relationship between the mentioned variables with procrastination.

Aims: This study was designed to determine the relationship between perceived competence, self-esteem, and self-efficacy with academic procrastination among the nursing students of Mazandaran University of Medical Sciences.

Settings and Design: This was a descriptive-analytical study. It was conducted in three nursing schools of Sari, Amol, and Behshahr in the north of Iran in 2020.

Materials and Methods: The sample size included 299 nursing students selected by stratified random sampling out of all undergraduate and graduate students. The research tools included the Demographic Characteristics Questionnaire, Williams and Desi's Perceived Competence Scale, Rosenberg Self-Esteem Scale, Schwarzer and Jerusalem Self-Efficacy, and Tuckman Procrastination Scale.

Statistical Analysis: The descriptive statistics (frequency and mean \pm standard deviation [SD], median, and quartiles) and Spearman's rank correlation coefficient were used for statistical analysis.

Results: According to the results, the mean and SD of the scores for academic procrastination, perceived competence, self-esteem, and self-efficacy was 26.05 ± 6.10 , 25.77 ± 2.93 , 9.84 ± 1.86 , and 8.31 ± 11.85 , respectively. Spearman's correlation coefficient revealed a positive significant correlation between academic procrastination and perceived competence ($r = 0.56$, $P = 0.001$) and a negative meaningful correlation with self-esteem ($r = -0.30$, $P = 0.001$) and self-efficacy ($r = -0.43$, $P = 0.001$).

Conclusion: According to the findings, academic procrastination displayed a positive relationship with perceived competence and a negative relationship was found with self-esteem and self-efficacy. Therefore, it is necessary to take the variables, namely, self-esteem, perceived competence, and self-efficacy into account in order to reduce academic procrastination.

Keywords: Academic procrastination, Nursing students, Perceived competence, Self-efficacy, Self-esteem

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INTRODUCTION

One of the effective and facilitating factors to provide individuals in society with health is to train nursing students who strive for the health of society through acquiring sufficient knowledge and skill.^[1] Nursing students are actively working as members of health departments in various areas such as health, education, research, consulting, prevention, support, management, and medical care and rehabilitation services.^[2] Thus, considering such students' educational status is taking a step toward sustainable development of the health of society and improving academic performance in society.^[3] Academic procrastination refers to delaying the implementation and completion of course tasks and projects and lower preparedness for examinations,^[4] which results in dysfunctional learning outcomes regarding patient care skills, and as a result, the students' knowledge and awareness decreases. Almost 70% of the students have acknowledged the existence of procrastination in their academic and educational activities during their studies.^[5] The most significant factors for academic procrastination among students are stress, social problems, not being committed, lack of guidance and support, and absence of time management.^[6,7] The findings of the study done at Guilan University of Medical Sciences, Iran (2016), suggested 13.9% of medical sciences students being involved in severe procrastination, 69.5% in moderate procrastination, and 16.6% in mild procrastination.^[8] However, in a study done in Abadan Branch, Iran, Islamic Azad University (2013) reported the outbreak of academic procrastination as 14%.^[9] Procrastination has been proven as a deterring factor to the students' success.^[10]

On the other hand, perceived competency, self-efficacy, and self-esteem as positive psychological variables have a critical impact on the students' health and proper performance.^[10] The conception of competence encompasses five areas of physical competence, behavior, competence in sports, social acceptance, and academic competence.^[11] Perceived competence is viewed as one of the self-concept

components for being aware of one's characteristics, the type of relations with others, feedback on events, and one's capacities and abilities. Pursuant to the studies, the factors such as gender, education, father, and family are associated with perceived competence.^[10] The researchers from the College of Udipi Taluk in India (2015) indicated that 74.7% of the nursing students had satisfactory perceived competence.^[12] Furthermore, the level of competence perception in Chinese nurses was also high.^[13] Moreover, the findings of the study conducted by the researchers from Tehran University, Iran (2016), displayed that perceived competence exerted a positive impact on academic resilience.^[14] Nursing students are affected by various stressors, for which self-esteem can be considered one of the stress-modulating factors.^[15,16] Self-esteem has irrefutable effects on individuals' mental health and life, but based on the studies, its rate is not favorable among nursing students, and according to recent findings, a significant percentage of nursing students are reported to have low self-esteem.^[17-19] The researchers of Kurdistan University of Medical Sciences in Iran (2018) reported that promoting the students' self-esteem can result in nursing students' academic achievement and improve the educational and clinical quality of the nursing students.^[20] The study findings in Egypt revealed that both female nursing students and male nursing students had a moderate level of self-esteem (42%).^[21] On the other hand, self-esteem is an effective factor in individuals' learning which is associated with self-efficacy.^[22] In other words, self-efficacy is one of the mediating variables related to education helping the students' learning and is viewed as a mediator between knowledge and practice. Academic self-efficacy means the students being confident to have the potential to do the assignments. Self-efficacy is the most critical element of Bandura's social cognitive theory, which stimulates motivation and, eventually, promotes the students' academic performance and reduces their stress.^[23] The findings of the research done by the researchers of Tehran University of Medical Sciences in Iran (2014) among the nursing and paramedical students showed that merely

24.3% of the students had high academic self-efficacy.^[24] However, the prevalence of self-efficacy in Indonesian nursing students was moderate.^[25]

Regarding the stated points, three important variables, namely, perceived competence, self-esteem, and self-efficacy, play a substantial role in nurses' work competence. Though in recent years, attention has been paid on procrastination and its effects on the nursing profession in education and the different work environments. While no study has been done to address the relationship between procrastination and the study variables among nursing students, this study pursued the goal to identify the association between the perceived competence, self-esteem, and self-efficacy and procrastination among the nursing students of Mazandaran University of Medical Sciences, Iran.

MATERIALS AND METHODS

Design and participants

The present study was a descriptive-analytical research done in 2020. The study community was made up of 1100 students from Sari-, Behshahr-, and Amol-based nursing schools affiliated with Mazandaran University of Medical Sciences, Iran. The sample size was calculated using the study done by Cheraghi and Yousefi^[26] considering the mean and standard deviation (SD) of academic procrastination and the significance level of 5% and the test power of 80% into account based on the following formula:

$$n = \frac{[z_{\alpha/2}(1 - \alpha/2) + z_{\beta}(1 - \beta)]^2 \times \sigma^2}{d^2} = \frac{[1.96 + 0.84]^2 \times [14.6]^2}{(2.5)^2} = 267.4$$

Considering the loss to follow-up, the sample size was 299 individuals out of the nursing students.

Study community and sampling

The students of each faculty were chosen by stratified random sampling out of the student list using their student numbers. Being nursing student of bachelor's and master's course was the inclusion criteria. Moreover, the exclusion criteria were unwilling to participate in the research and being a guest student from other faculties.

First, according to the community size of the undergraduate and graduate students in each faculty, the sample distribution from the three faculties, that is, Amol ($n = 89$), Sari ($n = 170$), and Behshahr ($n = 41$), was determined, after that their student number was randomly selected.

Data collection

It should be stated that because of Covid-19 pandemic the questionnaires were prepared electronically and in

Google format and were distributed according students academic semester.

The data were collected by the following questionnaires:

- (1) The Demographic Characteristics Questionnaire including the variables (age, gender, marital status, academic semester, total grade point average (GPA), stressful experiences in the past 6 months, employment, the previous semester GPA, parents' education level, smoking history, drug abuse history, chronic physical illnesses, and using physical relaxation methods)
- (2) The Williams and Desi's Perceived Competence Scale (1996) is a 4-item questionnaire indicating the feeling of competence and the potential to learn in that subject. The subjects answered the questions based on a 7-point Likert scale from (1 for Absolutely Wrong) to (7 for Absolutely True). The min score is 4 and the max score is 28. The higher the score obtained from the questionnaire means, the higher the perception of competence. In the study by Williams and Desi among the student population of the medical sciences, Cronbach's alpha was achieved as 0.08.^[27] In Iran, Mirzaei *et al.* (2020) verified this scale's validity and reliability via conducting the exploratory factor analysis and finding the internal consistency with Cronbach's alpha as 0.916.^[28,29] This scale does not have cut point
- (3) The Rosenberg Self-Esteem Scale for evaluating global and individual self-esteem in the form of a 10-item questionnaire is one of the most common and reliable self-esteem measurement scales, where the subjects are asked to tick the option "agree" or "disagree" to indicate for or against after reading through the statements. The scoring of this scale is this manner: agreeing with each of the statements from 1 to 5 is scored as +1, disagreeing with each of the statements from 1 to 5 is scored as -1, agreeing with each of the statements from 6 to 10 is scored as -1, and disagreeing with each of the statements from 6 to 10 is scored as +1. Finally, the algebraic addition of the total scores is calculated. The score range is between -10 and +10, where the score higher than 0 indicates high self-esteem and the score lower than 0 means low self-esteem. The score (+10) denotes very high self-esteem, and the score (-10) means very low self-esteem. This scale has satisfying internal validity (0.77). The content validity method has been employed to scientifically validate this scale.^[30] The scale's validity was calculated by Vahdatnia ($r = 0.73$) using the split-half method between the two Persian and English versions by Spearman-Brown formula. Besides, using test-retest, the Persian version's

reliability was estimated within a 10-day interval, and the correlation coefficient was reported as 0.74^[31,32]

- (4) The General Self-Efficacy scale, first developed by Jerusalem *et al.*, is a 10-item scale that is answered in a Likert scale in the form of “absolutely incorrect” to “absolutely correct” rating from 1 to 4. The score ranges from 10 to 40, where a higher score refers to higher general self-efficacy. This scale was divided into favorable and less favorable general self-efficacy groups according to the subjects’ scores.^[33] In Iran, this scale was standardized and validated by Rajabi (2006) and verified in terms of its validity and reliability.^[34] Moreover, its Cronbach’s alpha was reported in the range of 0.82–0.73 in various studies in Iran^[35,36]
- (5) The Tuckman Procrastination Scale (1991) reported the reliability of this questionnaire as 0.86. Cronbach’s alpha was calculated as 0.88. This scale is a 16-item tool. Moreover, it is answered based on a 4-point Likert scale. The subject selects one of the multiple-choice options: “I’m certainly not like this,” “I lack such tendency,” “I have this tendency,” and “I’m certainly like this.” The answers are usually scored as 1, 2, 3, and 4, respectively. Twelve items are scored directly and four items (7-12-14-16) are scored reversely. High score refers to higher procrastination.^[37] In Iran, in the study done by Mustafa *et al.*, the internal consistency of this measure was achieved as 0.71 using Cronbach’s alpha, which indicates the scale’s favorable validity.^[38] In the current study, the internal consistency of this measure was 0.903.

Ethical considerations

After acquiring the due permits, the present study was approved with the code IR.MAZUMS.REC.1399.8486 granted by the Vice-President of the Research and Technology of Mazandaran University of Medical Sciences and performed after acquiring the study participants’ informed written consent through explaining the goals and the participating procedure in the study to them. Besides, the study participants were assured of their participation being optional and that all their answers will be used for the study goals and their information will be kept confidential, observing the principle of anonymity.

Statistical analysis

The study data were analyzed using the SPSS 20 software (IBM, Armonk, NY, USA) has been employed to analyze. The descriptive statistics indicators including the frequency mean, standard deviation, median, 25th and 75th quartiles have been used to describe the research samples and the inferential statistical test, including spearman correlation coefficient has been applied.

RESULTS

For variables of procrastination, competence perception, self-efficacy, and self-esteem, normal distribution was not established.

Some of the students’ demographic characteristics are given in Table 1.

The scales’ normality assumption was examined using Kolmogorov–Smirnov and Shapiro–Wilk tests; the hypothesis of normal distribution of the scores for each of the questionnaires of procrastination, perceived competence, self-esteem, and general self-efficacy was not confirmed ($P = 0.001$).

The mean \pm S.D and median and Q1-Q3, of the perceived competence, self-esteem, general self-efficacy and procrastination are showed in Table 2.

Pursuant to the results, academic procrastination was associated with perceived competence, self-esteem, and self-efficacy. The variable known as perceived competence revealed a direct and meaningful relationship with the procrastination variable ($r = 0.565$) ($P = 0.001$). Besides, the variables known as self-esteem and general

Table 1: Nursing students’ demographic characteristics

Variable	n (%)
Gender	
Man	189 (63)
Woman	111 (37)
Degree	
Bachelor	257 (86)
Master	42 (14)
Students’ stressful experiences in the last 6 months	
No	204 (68.2)
Yes	95 (31.8)
Marital status	
Single	200 (66.7)
Married	100 (33.3)
GPA	
<16	154 (51.3)
16-17	78 (26)
17-18	23 (7.7)
>18	44 (14.7)
Smoking	
No	174 (58)
Yes	126 (42)
Drug abuse history	
No	299 (100)
Yes	0
Age	
17-20	3 (1)
21-25	212 (70.7)
26-30	57 (19)
31-35	18 (6)
>35	10 (3.3)

GPA: Grade point average

Table 2: Scores of procrastination, perceived competence, self-esteem, and general self-efficacy scales among the nursing students of Mazandaran University of Medical Sciences, Iran (2020)

Variable	Mean±SD	Minimum-maximum	Median	Q1-Q3 ^a
Perceived competence	25.76±93.2	13-28	28.0	24-28
Self-esteem	9.48±1.86	-2-10	10.0	10-10
Self-efficacy	31.85±8.11	20-40	36.0	20-40
Procrastination	26.05±6.10	19-52	25.0	20-33

^a25th and 75th quartiles. The min and the max perceived competence scores are 13 and 28, self-esteem scores are -2 and 10, self-efficacy scores are 20 and 40, procrastination scores are 19 and 52.

SD: Standard deviation

self-efficacy revealed meaningful negative relationships with procrastination variables, respectively ($r = -0.0303$, $P = 0.001$; $r = -0.430$, $P = 0.001$, respectively).

DISCUSSION

The results of the present study revealed a direct significant association between the two variables, namely, the perceived competence and procrastination among the nursing students of Mazandaran University of Medical Sciences, i.e. as the perceived competence increased, the procrastination got higher. In a Spanish research (2020), the scientists reported a critical relationship between Spanish University students' perceived competence and procrastination.^[39] Moreover, other scientists from a Spanish university (2019) reported a negative correlation between the individuals' procrastination and competence,^[40] which is incongruent with the present study extracted findings. Since their goal was academic achievement, successful students come up with higher capability and perseverance when choosing, directing and persisting in their academic activities, which in turn boosts their motivation for achievement and, as a result, enhances their feeling of competence.^[41] In contrast to this finding, our study-derived results indicated that higher perceived competence is a relevant factor that brings about procrastination because one believes in oneself and one's capabilities; thus, the individual visualizes that achieving the goal is handy and puts it off.

The study results demonstrated a meaningful negative relationship between self-esteem and procrastination, and the correlation coefficient between the self-esteem and procrastination scales' scores was negative. These results suggested an inverse relationship between the two scales' scores, and as self-esteem score increased, procrastination score decreased. A study on high school girl students in Kashan, Iran, discovered a negative relationship ($r = -0.46$) between the two variables, i.e. self-esteem and achievement motivation and procrastination. Furthermore, a research in Turkey (2016) reported a significant negative

relationship between procrastination and self-esteem ($r = -0.14$).^[41] It can be stated that successive positive and negative evaluation of an individual's performance exerts a direct impact on their self-esteem, so that positive evaluation increases self-esteem and negative evaluation lowers self-esteem.^[42] Interpreting the first part of this finding, it seems that self-esteem strategies make individuals' intellectual and mental processes dynamic, and since academic performance is affected by rational processes, it is expected that the effect of these strategies on academic procrastination is verified.^[43]

The results of the current study revealed a significant negative relationship between self-efficacy and procrastination scores. In this respect, a research among secondary school students indicated the self-efficacy variable being significantly able to predict academic procrastination.^[26] Besides, other studies reported that there is a meaningful negative relationship between procrastination and self-efficacy ($r = -0.52$).^[44] Analyzing the association between general self-efficacy, academic procrastination, and academic achievement in South Tehran-based Iran Islamic Azad University faculties (2010) stated a significant negative relationship between general self-efficacy, academic procrastination, and academic achievement ($r = -0.45$).^[45] Another study revealed a negative correlation between academic achievement and self-efficacy among students from various faculties in Croatia.^[40] Among Turkish students, a study reported academic motivation leading to a positive relationship between cooperation and self-efficacy. In other words, compared to a student with low motivation, the student who is more motivated is less inclined to procrastination.^[46] A study also revealed that self-efficacy and achievement goals could significantly predict approach-oriented coping strategies and the only coping strategy, i.e. behavioral avoidance, meaningfully predicted procrastination.^[47] Self-efficacy is considered a critical determinant of achieving behavioral change, while low self-efficiency can lead to avoidance behavior. High self-efficacy is the driving force to initiate a behavior and maintain that behavior. Academic self-efficacy is the pervasive confidence in one's ability to successfully accomplish an academic task. Therefore, individuals with high self-efficacy are more enthusiastic for learning activities. They double their efforts on the activities and are likely to be equipped with more effective strategies for the problems they face.^[45] The relationship between self-efficacy and procrastination has not been investigated much and the results extracted from a study suggest a meaningful negative relationship between self-efficacy and procrastination.^[46] A study showed that self efficacy for self regulated learning is directly associated with reduced

procrastination among learners.^[47,48] Self-efficacy plays a key role in self-regulating behavior in different behavioral areas and is directly associated with procrastination via influencing self-regulation.^[49] Procrastination has a negative relationship with all self-efficacy scales in diverse areas and academic assignments.^[48,50] The results also indicated a significant negative association between procrastination and self-efficacy and stated that sometimes, self-efficacy plays a moderating role in the relationship between procrastination and other psychological variables.^[51]

While a study in USA on predictors of academic procrastination in college students showed there was a positive relationship between self-efficacy and procrastination, which is not consistent with our study.^[35] This difference may be due to the difference in the culture of the two countries.

Regarding the fact that the current study was performed on nursing college goers, it is required to be cautious when generalizing the results to the students of other disciplines. Furthermore, no cohort study was used to determine the relationship.

CONCLUSION

Although procrastination results in convenience and delight for a person during the short term, it is accompanied by stress and failure and lowers self-efficacy. Generally speaking, the study results displayed a meaningful negative relationship between procrastination and perceived competence, self-esteem, and general self-efficacy in the nursing students of Mazandaran University of Medical Sciences. Moreover, paying attention to self-esteem and self-efficacy leads to reducing procrastination among students. Therefore, we suggest to design and examine appropriate interventions which increase self-esteem, perceived competence and self-efficacy in reducing the students' procrastination so that to promote the quality of education in colleges as well as to improve the quality of care that is provided to the patients by the students.

Conflicts of interest

There are no conflicts of interest.

Author contribution

F. Talebian worked on the data collection and writing the first draft of the article. A. Hesamzadeh was the advisor of the article. A. Hosseinnataj performed the data analysis and interpreted the results. H. Azimi Lolaty designed and supervised the work.

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REFERENCES

1. Asadi M, Adarvishi S, Mahmoodi M, Fayazi S, Ghasemi DehCheshmeh M. Relationship between mental health and demographic factors in nursing students. *J Health Care* 2014;16:79-8.
2. Azizi F. Challenges and perspectives of medical education in Iran. *Pejouhesh dar Pezeshki (Res Med)* 2015;39:1-3.
3. Aghakhani NH, Jamalimoghadam N, Ghodsbin F. A study on the psychological state and academic performance of nursing students at Shiraz school of nursing and midwifery Shiraz, Iran. *Sadra Med Sci Mag* 2019;7:251-60.
4. Rahimian Boogar I, Rohanipoor S. The academic procrastination in University students: Predictive role of demographical and psychological factors. *Sci J Manag Syst* 2015;3:1-19.
5. Atadokht A, Mohammadi I, Basharpour S. A study of academic procrastination based on demographic variables and its relationship with achievement motivation and academic performance of high school students. *J Sch Psychol* 2015;2:135-42.
6. You JW. Examining the effect of academic procrastination on achievement using LMS data in e-learning. *J Educ Technol Soc* 2015;18:64-74.
7. Tehrani M. Investigating the causes, solutions and treatment of procrastination based on Islamic sources. *J Marefat* 2010;64:11-7.
8. Chehrzad M, Ghanbari A, Rahmatpour P, Barari F, Pourrajabi A, Alipour Z. Academic procrastination and related factors in students of Guilan University of medical sciences. *JMED* 2017;11:352-62.
9. Ma T. A study of the prevalence of academic procrastination among students and its relationship with demographic characteristics preferences of study time and purpose of entering University. *Q Educ Psychol* 2013;9:99-120.
10. Movahedzadeh AR. The relationship between perceived competence, academic satisfaction and academic achievement with moderating role of perceived self-efficacy in high school girl students in district 2 of Shiraz. *J New Adv Behav Sci* 2018;3:1-21.
11. Bahadormotlagh EA, Bahadormotlagh GH. The effectiveness of teaching cognitive strategy skills on perceived competence dimensions in students. *Transform Psychol Iran Psychol* 2012;33:46-39.
12. Sheilini M. Perceived competence on evidence based nursing practice among final year nursing students of selected college of Udipi Taluk. *Nursing* 2015;4:11.
13. Huang S, Saensom D. Factors associated with nurses' perceived competence in pressure injury care in a tertiary hospital in Yunnan, China. *Adv Skin Wound Care* 2022;35:1-9.
14. Mirzaei SH, Kiamanesh A, Hejazi E, BaniJamali SH. The effect of competency perception on academic resilience through motivation autonomous. *Psychol Methods Model* 2015;7:67-82.
15. Shamsaei F, Yaghmaei S, Sadeghian E, Tapak L. Survey of stress, anxiety and depression in undergraduate nursing students of Hamadan University of medical sciences. *J Nurs Educ* 2018;6:26-31.
16. Hasnzadeh HM, MaddiNeshat M. Stress and coping strategies in clinical education of nursing students of North Khorasan University of medical sciences. *J North Khorasan Univ* 2020;6:797-806.
17. Alizadeh S, Namazi A, Kouchakzadeh TS. A comparative study of self-esteem in nursing and midwifery students of Islamic Azad University of Rasht and its correlation with academic success. *JNE* 2016;4:17-25.

18. Yorra ML. Self-efficacy and self-esteem in third-year pharmacy students. *Am J Pharm Educ* 2014;78:134.
19. Shafian H, Azizzadeh-Forouzi M, Garrusi B, Haghdoost AA. Prediction of learning styles using students' self-esteem. *SDMEJ* 2017;13:451-9.
20. Moradi D, Karami M, Ghanei Gheshlagh R, Nemati M, Dehvan F. Evaluation of the relationship between self-esteem and academic success in nursing students of Kurdistan University of medical sciences, Sanandaj, Iran in 2018. *Sci J Nurs Midwifery Paramed Fac* 2018;4:71-8.
21. Fawzy AA, Mohamed HS, Mohamed HM, Mahmoud SR, Ahmed NT. Self- esteem Among Male and Female Nursing Students Enrolled in Maternity Curriculum- Assiut University. *Assiut Sci Nurs J* 2020;8:56-65.
22. Razaghpour A, Namdar P, Panahi R, Yekefallah L, Javanmardi E, L Dehghankarl. Learning Styles and Their Relationship with Self-Esteem and Self-Efficacy among Nursing Students in Qazvin. *Mod Care J*. 2021;18(1):e110745.
23. Mirzaei-Alavijeh M, Hosseini SN, Motlagh MI, Jalilian F. Academic self-efficacy and its relationship with academic variables among Kermanshah University of medical sciences students: A cross sectional study. *Pajouhan Sci J* 2018;16:28-34.
24. Rahimi F, Seyed Mirnasab HS, Alamdar E, Kamali K, Khoushemehr G. Relationship between self-efficacy and academic achievements in the students of Tehran University of medical sciences. *Iran J Nurs Res* 2018;13:59-66.
25. Rohmani N, Andriani R. Correlation between academic self-efficacy and burnout originating from distance learning among nursing students in Indonesia during the coronavirus disease 2019 pandemic. *J Educ Eval Health Prof* 2021;18:9.
26. Cheraghi A, Yousefi F. Investigating the mediating role of academic motivation in the relationship between self-efficacy and academic procrastination. *Knowl Res Appl Psychol* 2019;20:34-47.
27. Williams GC, Deci EL. Internalization of biopsychosocial values by medical students: A test of self-determination theory. *J Pers Soc Psychol* 1996;70:767-79.
28. Mirzaei S, Kiyamanesh A, Hijazi E, BaniJamali S, Al Sadat. The effect of competence perception on academic resilience with the mediation of autonomous motivation. *Sci Res Q Psychol Methods Model* 2016;7:67-82.
29. Klassen RM, Ang RP, Chong WH, Krawchuk LL, Huan VS, Wong IY, et al. Academic procrastination in two settings: Motivation correlates, behavioral patterns, and negative impact of procrastination in Canada and Singapore. *Appl Psychol* 2010;59:361-79.
30. Burnett S, Wright K. The Relationship Between Connectedness with Family and Self-Esteem in University Students. USA: Department of Sociology, Furnam University; 2002. p. 42.
31. Salsali M, Silverstone PH. Low self-esteem and psychiatric patients: Part II—The relationship between self-esteem and demographic factors and psychosocial stressors in psychiatric patients. *Ann Gen Hosp Psychiatry* 2003;2:3.
32. Mäkikangas A, Kinnunen U, Feldt T. Self-esteem, dispositional optimism, and health: Evidence from cross-lagged data on employees. *J Res Pers* 2004;38:556-75.
33. Nezami E, Schwarzer R, Jerusalem M. Persian Adaptation (Farsi) of the General Self Efficacy Scale. Available from: [http:// fu berlin.de/~health/persean.htm](http://fu-berlin.de/~health/persean.htm). [Last retrieved on 2022 Nov 09].
34. Rajabi GR. The validity and validity of the general self-efficacy belief scale (GSE-10) by comparing the psychology students of Shahid Chamran University and Marvdasht Azad University. *New Comments Train* 2006;2:1-2.
35. Farran B. Predictors of academic procrastination in college students. *Diss Abstr Int B Sci Eng* 2004;65:1545.
36. Azadi M, Akbari Balootbangan A, Vaezfar S, Rahimi M. The role of coping styles and self-efficacy in nursing job stress in hospital. *Iranian Journal of Psychiatric Nursing* 2014;2:22-32.
37. Tuckman BW. The development and concurrent validity of the procrastination scale. *Educ Psychol Meas* 1991;51:473-80.
38. Mustafa K, Marjan F, Manijeh K. Investigating the prevalence of procrastination and factors affecting it among University administrators and staff. *Chang Manage Res Pap* 2010;4:1.
39. Codina N, Castillo I, Pestana JV, Balaguer I. Preventing procrastination behaviours: Teaching styles and competence in University students. *Sustainability* 2020;12:2448.
40. Kurtovic A, Vrdoljak G, Idzanovic A. Predicting procrastination: The role of academic achievement, self-efficacy and perfectionism. *Int J Educ Psychol* 2019;8:1-26.
41. Boysan M, Kiral E. Associations between procrastination, personality, perfectionism, self-esteem and locus of control. *Br J Guid Coun* 2017;45:284-96.
42. Baack S, Alfred D. Nurses' preparedness and perceived competence in managing disasters. *J Nurs Scholarsh* 2013;45:281-7.
43. Duru E, Balkis M. The roles of academic procrastination tendency on the relationships among self-doubt, self-esteem and academic achievement. *Egitim Ve Bilim* 2014;39:173.
44. Taj S, Shirkund M. Predicting nursing students' academic procrastination based on initial maladaptive schemas and self-efficacy. *New Skills Educ Manage* 2019;1:15-23.
45. Cheraghi F, Hassani P, Riazhi H. Correlation study of nursing students' self-efficacy with clinical performance. *Avicenna J Nurs Midwifery Care* 2011;19:35-45.
46. Malkoç A, Mutlu AK. Academic self-efficacy and academic procrastination: Exploring the mediating role of academic motivation in Turkish University students. *Univ J Educ Res* 2018;6:2087-93.
47. Zhou M, Kam CC. Trait procrastination, self-efficacy and achievement goals: The mediation role of boredom coping strategies. *Educ Psychol* 2017;37:854-72.
48. Raufelder F, Ringeisen S. Associations of student – Temperament and educational competence with academic achievement. The role of teacher and student gender. *Teach Educ J* 2016;27:242-51.
49. Boulter LT. Self-concept as a predictor of college freshman academic adjustment. *Coll Stud J* 2002;36:234-46.
50. Williams BM, Williams DA. Beyond beliefs: Parent and child behaviors and children perceived academic competence. *Child Dev* 2010;63:380-91.
51. Sirois FM. Procrastination and intentions to perform health behaviors: The role of self-efficacy and the consideration of future consequences. *Pers Individ Dif* 2004;37:115-28.