

Access this article online
Quick Response Code:

Website: www.jehp.net
DOI: 10.4103/jehp.jehp_195_20

Academic procrastination and self-efficacy among a group of dental undergraduate students in Malaysia

Eswara Uma, Chia Hua Lee¹, Siti Nor Hidayu Binti Mohd Shapiai¹, Anis Nabila Binti Mat Nor¹, Htoo Htoo Kyaw Soe², Eby Varghese

Abstract:

BACKGROUND: Undergraduate dental students have to do multiple tasks as part of their extensive curriculum in order to achieve the proficiencies expected of them. During the course of their study, a tendency to procrastinate and question their self-efficacy is detrimental for the students. The aim of this study was to evaluate the level of procrastination and self-efficacy and its related factors among dental undergraduate students.

SUBJECTS AND METHODS: This cross-sectional study was conducted among all ($n = 361$) consented dental undergraduate students of our dental school. A twenty-item Lay's Procrastination Scale for student population and a ten-item General Self-Efficacy Scale were used for the study after getting institutional ethical approval. The quantitative data were explained using descriptive statistics. Independent sample t -test and ANOVA were used to determine the association between self-efficacy, academic procrastination, and genders and academic years. Pearson correlation coefficient was used to determine the association between self-efficacy and procrastination. Multiple linear regression analysis was performed to determine the related factors to academic procrastination.

RESULTS: High procrastination (score ≥ 62) was seen among 28.5% of students. The mean self-efficacy score was 29.5. There was no significant difference between genders for procrastination scores ($P = 0.835$) and between academic years ($P = 0.226$). Males showed significantly more self-efficacy ($P < 0.001$), and self-efficacy did not show any significant difference ($P = 0.204$) between academic years though a tendency for year 5 students to have lower self-efficacy scores was observed. Academic procrastination was negatively correlated with self-efficacy ($r = -0.238$ and $P < 0.001$).

CONCLUSIONS: For dental undergraduates who have cognitive load as well as work associated with patients, procrastination and self-efficacy are negatively correlated.

Keywords:

Dental students, procrastination, self-efficacy, undergraduates

Department of Pediatric Dentistry, Faculty of Dentistry, Melaka Manipal Medical College, MAHE, Manipal, Melaka, Malaysia, ¹Former Undergraduate Student, Faculty of Dentistry, Melaka Manipal Medical College, MAHE, Manipal, Melaka, Malaysia, ²Department of Community Medicine, Faculty of Medicine, Research Methodology and Biostatistics Unit, Melaka Manipal Medical College, MAHE, Melaka, Malaysia

Address for correspondence:

Prof. Eswara Uma, Faculty of Dentistry, Melaka Manipal Medical College, MAHE, Jalan Batu Hampar, Bukit Baru, Melaka 75150, Malaysia. E-mail: eswara.uma@manipal.edu.my

Received: 05-03-2020

Accepted: 02-06-2020

Published: 26-11-2020

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

Introduction

Procrastination is the avoidance of doing a task that needs to be accomplished and putting off to a later time. It could be related to personal issues, health issues, home care issues, or academic/work obligations, but it can lead to feelings of guilt, inadequacy, depression, and self-doubt.^[1]

Academic procrastination is a common phenomenon on college campuses and refers to delaying academic tasks such as doing homework, handing in term paper, or preparing for examinations at the last minute.^[2] Procrastination among college students on school-related tasks ranges from 22%–33%^[3,4] to as high as 95%,^[5] and students with a strong tendency to procrastinate tend to get low scores on the tests and weaker academic achievement.^[2,6,7]

How to cite this article: Uma E, Lee CH, Shapiai SN, Binti Mat Nor AN, Soe HH, Varghese E. Academic procrastination and self-efficacy among a group of dental undergraduate students in Malaysia. *J Edu Health Promot* 2020;9:326.

Academic procrastination is regarded as a self-defeating behavior with short-term benefits such as improving mood^[8] but with long-term costs such as being under constant stress as the deadline approaches.^[9]

Research has been done to assess the relationship between procrastination and personality traits,^[10] gender,^[11] and year of study^[12] among college students in order to find a cause for procrastination. Among the personality traits, recently self-efficacy has gained attention as it is thought to be a cause for procrastination. The role of self-efficacy in causing procrastination is intriguing and is being studied with renewed interest.

Self-efficacy is the confidence people have in their abilities for success in an assigned task;^[13] hence, if the task is perceived to be easy, it would be attempted else it would be avoided. In learning, it helps by motivating. The inclination to procrastinate has been associated with one's perception of self-efficacy.^[14] Lack of confidence to perform a certain task would be one of the reasons for procrastination.^[3]

Dental curriculum is designed in such a way that upon completion, a student has diverse proficiencies including acquisition of theoretical knowledge, clinical competencies, and interpersonal skills.^[15] Examinations and grades, limited time for relaxation and leisure time, faculty expectations for workload, perceived lack of confidence in ability to treat patients, difficulties with patient attendance, and ability to meet clinical requirements have been reported in previous research as perceived stressors among dental undergraduates.^[16] With multiple activities on students' schedules, and stressors, skills are needed to set goals, achieve those goals, and in the process, avoid procrastination.^[17] Dental undergraduates are young adults, who have cognitive and metacognitive strategies that will help in their learning. Lower confidence to use these strategies might contribute to their procrastination.

Limited research is available on procrastination among professional students such as dental undergraduates.

The objectives of this study were as follows:

1. To determine the relationship between level of academic procrastination and self-efficacy among dental undergraduates
2. To assess the relationship between academic procrastination and self-efficacy with gender disparity and year of study among dental undergraduates.

Subjects and Methods

In this cross-sectional study, all dental undergraduate students of the institution from year 1 to year 5 were

invited to participate after obtaining approval from the institutional ethical committee in April 2016. The study was conducted from April 2016 till March 2017. No coercion or any promise of incentives for participation in the study was provided. Written consent, before the commencement of the study, was obtained from students. Students who consented to participate were included in the study.

Tools for data collection

General Procrastination Scale

The Lay's Procrastination Scale for students (Lay 1986) was used to evaluate the level of procrastination among students. This scale comprises of twenty items that are self-reporting (for example, I usually start an assignment shortly after it is assigned and I often have a task finished sooner than necessary) on a five-point Likert scale (extremely uncharacteristic = 1, moderately uncharacteristic = 2, neutral = 3, moderately characteristic = 4, and extremely characteristic = 5). Ten items in the scale are scored directly, while the remaining ten items have reverse scoring. The total score on this scale ranges between 20 and 100. The scale has been reported to have high reliability with Cronbach's alpha of 0.82, and the construct validity of this scale has been described in the general population as well as university students.^[18] Simplicity of the scale and ease of administration were the reasons for choosing this scale for the study.^[19]

The total score was calculated by adding up all the ratings of the items and reverse coding of the ten items that were positively worded. Higher scores indicated higher procrastination by students. The calculated total score of academic procrastination was divided into three categories such as low (≤ 33.3 percentile of total score which is 55), moderate (score between 33.4–66.6 percentile of total score which is 56-61), and high (≥ 67 percentile of total score which is ≥ 62).^[17]

Self-Efficacy Scale

The revised version of the original scale in German, developed in 1979 by Matthias Jerusalem and Ralf Schwarzer, was used for this study.^[20] The number of items in the scale is 10 and it is easy to administer. The scale is self-administered with items such as I am confident that I could deal efficiently with unexpected events, and the responses to items made on a four-point scale (1 = not at all true, 2 = hardly true, 3 = moderately true, and 4 = exactly true). The sum of responses to all ten items yields a final composite score, with a range from 10 to 40. There is no need for recoding.

Both the scales were subject to content and face validity by the experts of our institution in order to ensure their applicability in our setting. The Cronbach's alpha

calculated for Lay's Scale in our setting was 0.765, while for self-efficacy, it was 0.890 indicating good reliability.

Data collection method

Students of each batch were explained the purpose of the study on separate days. Each batch was administered the questionnaires on separate days. On a designated day, the students of one batch, who were willing to participate, were asked to assemble in a lecture theater. The students were given instructions on the Lay's Procrastination Scale and General Self-Efficacy Scale. All the five batches were given the forms on separate days and collected once the students completed them. Incomplete forms were excluded.

Data analysis

Microsoft Excel was used for data processing and data entry. Statistical analysis for social science (SPSS) IBM, version 12.0 was used for data analysis. Descriptive statistics such as frequency and percentage were calculated for categorical data, and mean and standard deviation (SD), range were calculated for quantitative data. Independent sample *t*-test and ANOVA were used to determine the association between self-efficacy, academic procrastination and the two genders, as well as between different academic years. Pearson correlation coefficient was used to determine the association between self-efficacy and procrastination. Multiple linear regression analysis was performed to determine the related factors to academic procrastination. $P < 0.05$ was considered statistically significant.

Results

A total of 361 students participated in this study with a response rate of 100%. 70.4% of them were female and 29.6% were male. Except year 4 where the number of students was only 65, the student distribution was almost uniform ranging between 71 and 77 [Table 1]. Among the students, 33.5% of them had low procrastination, 38% had moderate procrastination, and 28.5% had high procrastination. The self-efficacy score among the students ranged from 18 to 40, and mean (SD) was 29.5 (3.88) [Table 2].

Academic procrastination showed no significant difference with gender ($P = 0.835$). No significant relationship was seen between academic year and academic procrastination ($P = 0.226$) [Table 3]. Males had significantly more self-efficacy scores ($P < 0.001$). An interesting finding was that while the self-efficacy scores did not show any significant relationship with academic year ($P = 0.204$), toward the final year, the scores were found to be lower than in the 1st year [Table 4]. A significant negative relationship between self-efficacy and academic procrastination was found ($r = -0.238$ and $P < 0.001$).

Table 1: Distribution of students based on gender and academic year (n=361)

Variables	n (%)
Gender	
Male	107 (29.6)
Female	254 (70.4)
Academic year	
Year 1	74 (20.5)
Year 2	71 (19.7)
Year 3	77 (21.3)
Year 4	65 (18.0)
Year 5	74 (20.5)

Table 2: Academic procrastination and self-efficacy among students (n=361)

Variables	n (%)
Academic procrastination	
Low (≤ 55)	121 (33.5)
Moderate (56-61)	137 (38.0)
High (≥ 62)	103 (28.5)
Academic procrastination	58.70 (8.92) ^a
Self-efficacy	29.50 (3.88) ^a

^aMean (SD). SD=Standard deviation

Multiple linear regression analysis was performed to show the relationship between gender, academic year, self-efficacy, and academic procrastination. The multiple regression model predicted statistically significant academic procrastination, $F(6353) = 5.223$, $P < 0.001$, $R^2 = 0.082$. There was no significant association between gender and academic procrastination. Compared to year 1, year 4 and year 5 had significantly higher score of academic procrastination with regression coefficient 3.7 (95% confidence interval [CI]: 0.8, 6.6) for year 4 and regression coefficient 3.8 (95% CI: 0.9, 6.6) for year 5 after adjusting gender and self-efficacy. There was also a significant negative relationship between self-efficacy and academic procrastination with regression coefficient -0.608 (95% CI: -0.846 , -0.370) [Table 5].

Discussion

Dentistry is perceived to be stressful, and the stress starts in the years spent in dental school.^[15] Students are expected to develop diverse proficiencies ranging from theoretical knowledge, clinical competence, and interpersonal skills. They have clinical interactions with patients such as practitioners and are expected to demonstrate all the proficiencies learned. This learning process is unique and differs from what they have been exposed to thus far.^[21] Due to the nature of the training, the dental undergraduates need to be efficient as well as prompt due to deadlines related to patient treatment. Failing to do so leads to stress and anxiety.^[22] Previous studies conducted worldwide and in Malaysia have

Table 3: Relationship between gender, academic year, and academic procrastination among students

Variables	n	Academic procrastination, Mean (SD)	Mean difference (95% CI)	t/F-statistics (df)	P
Gender					
Male	106	58.6 (9.34)	-0.2 (-2.2-1.82)	-2.1 (358) ^a	0.835
Female	254	58.8 (8.76)			
Academic year					
Year 1	74	56.7 (8.29)	1.42 ^b (4, 356)	0.226 ^{b,c}	
Year 2	71	58.6 (8.18)			
Year 3	77	58.9 (9.06)			
Year 4	65	59.7 (9.72)			
Year 5	74	59.7 (9.19)			

^aIndependent t-test, ^bOne-way ANOVA, ^cPost hoc analysis with Bonferroni corrections shows no significant difference between year 1 and other academic years. SD=Standard deviation, CI=Confidence interval

Table 4: Relationship between gender, academic year, and self-efficacy among students

Variables	n	Self-efficacy, Mean (SD)	Mean difference (95% CI)	t/F-statistics (df)	P
Gender					
Male	106	30.8 (3.83)	1.9 (0.9, 2.7)	4.23 (368) ^a	<0.001
Female	254	28.9 (3.78)			
Academic year					
Year 1	74	30.2 (3.88)	1.49 (4.356) ^b	0.204 ^{b,c}	
Year 2	71	29.9 (3.54)			
Year 3	77	29.2 (3.92)			
Year 4	65	29.6 (3.61)			
Year 5	74	28.8 (4.30)			

^aIndependent t-test, ^bOne-way ANOVA, ^cPost hoc analysis with Bonferroni corrections shows no significant difference between year 1 and other academic years. SD=Standard deviation, CI=Confidence interval

Table 5: Multiple linear regression analysis of relationship between gender, academic year, self-efficacy, and academic procrastination

Variables	Academic procrastination Adjusted ^b (95% CI) ^a	P ^b
Gender		
Male	Reference	0.448
Female	-0.8 (-2.8-1.2)	
Academic year		
Year 1	Reference	0.108
Year 2	2.3 (-0.5-5.2)	
Year 3	2.5 (-0.2-5.3)	
Year 4	3.7 (0.8-6.6)	
Year 5	3.8 (0.9-6.6)	
Self-efficacy	-0.6 (-0.8-0.4)	<0.001

^aAdjusted regression coefficient, ^bMultiple linear regression (R²=0.082). CI=Confidence interval

evaluated procrastination and related factors among university students,^[3,4,11,12,23,24] but there are few studies reported about dental undergraduate students. Since procrastination and self-efficacy play an important role in the development of student's competency, this study was therefore aimed to evaluate the level of procrastination and self-efficacy among a group of dental undergraduate students in Malaysia.

28.5% of dental undergraduate students were high procrastinators (score more than 62 on Lay's Scale). This was lower than the percentage of students showing

high academic procrastination in a previous study done among dental undergraduate students.^[17] Malaysian educational policies as well as parents lay a lot of emphasis on examinations and a successful tertiary education, because of which students adopt lifestyles to cope with the challenging higher education. Cultural influence on the values and thereby on the personality of the students could be another reason for fewer students showing high levels of procrastination.^[12] The students from different streams of higher education such as diploma, arts, and science have been reported to have a higher level of procrastination than observed in the present study.^[3,13,25] This difference between university students and dental undergraduates may be due to the nature of the tasks involved for students in their respective fields. It has been reported that procrastination among students may occur due to task characteristic, i.e., if it is boring, difficult, unpleasant, or based on the timing of the reward or punishment for the task^[8] For dental undergraduates' tasks are academic as well as clinical in nature and to accomplish them students need to manage their time well. Clinical tasks related to patients are time bound and may involve lot of laboratory work. Academic tasks like assignments, seminars, too are time bound. However, probably the dental students give more importance to the patient work compared to their academic work. This, along with poor time management could be one of the reasons for 66.5% of students showing moderate-to-high procrastination in our study group.

Procrastination was not seen to be significantly different among the genders, which was in accordance with a previous study conducted among Malaysian university students.^[12] However, gender differences related to procrastination have been inconsistent ranging from weak to nonexistent.^[8,26,27] Studies have reported a greater level of procrastination among male students, due to task aversiveness, poor time management, and less sincerity toward their study.^[11,13] Lower procrastination among females has been attributed to behavioral self-control and time management leading to lesser procrastination.^[28] Our cohort of students was heavily skewed toward female students (70.4%) despite which a significant influence of gender on procrastination was not observed, which reaffirms that effect of gender on procrastination is weak.

A comparison of different academic years for level of procrastination did not show any significant difference, which is in accordance with previous study.^[29] However, it was observed that year 4 and year 5 students had a greater tendency to procrastinate. This was an unusual observation. The students in these 2 years have a lot of clinical work to carry out apart from regular academic work. It has been reported that too many tasks at the same time are the number 1 factor along with time management that influences procrastination among students.^[24] This could be one of the reasons for procrastination among the dental undergraduates who might have a feeling of an overload of cognitive as well as clinical work. A previous study reported that when the freshmen get accustomed to the college environment, their commitment to school tasks reduces instead of increasing. The tendency to procrastinate among the Chinese cohort of students was attributed to lack of strategies to deal with the conflicts and contradictions the students face closer to their graduation as well as failure to allocate time successfully.^[11]

The highest self-efficacy score could be 40. An increasing score indicates that self-efficacy beliefs have also increased. The average score of self-efficacy was 29.5, which was similar to previous studies.^[22,30]

There was a negative correlation between procrastination and self-efficacy in concordance with previous studies.^[8,13] Previous research has shown that though self-efficacy has a central role in procrastination, by itself, self-efficacy cannot explain why some students including dental students tend to procrastinate with regard to their academic work. Self-efficacy influences the internal motivation,^[4,26] as well as self-regulated learning and thereby procrastination. While a student may perceive himself to have higher self-efficacy, however, if it is not accompanied by inherent motivation, he will still procrastinate. Similarly, perceived self-efficacy is

important in self-regulated learning through goal setting. While self-efficacy mediates the cycle of procrastination, the sense of accomplishing perceived goals plays an important role in this relationship. When a student harbors self-doubt, he may fail to translate his intentions into plans or fail to act on his plans.

Whenever the student feels that his goal achievement is low, due to expectation of failure and related negative emotions, his perceived self-efficacy reduces which increases procrastination. Instead of increasing the learning effort and cognitive strategy use, it has been observed that students irrationally postpone their studying.^[14] For dental undergraduate students, clinical and academic loads are almost equal. Self-perception of inability to achieve clinical competence may lead to the student feeling low goal achievement, thereby increasing his/her procrastination.

Males were found to have significantly greater self-efficacy scores than females. Reported perception of self-efficacy among males and females has been inconsistent. In one study, it was reported that among college students, females reported greater self-efficacy.^[23] In another study among engineering graduates, self-efficacy among women was reported to be lower than males. This was attributed to the hypothesis that women experience higher internal physiological responses (e.g., anxiety) that lead to decrease in perceptions of self-efficacy.^[31] The reason for the gender difference which exists has been explained on the basis of social cognitive theory, wherein self-efficacy expectations are one of the elements in decision-making among both genders. The differences seen in the expectation of self-efficacy are due to societal perceptions of the appropriate tasks, activities, and occupations appropriate to each gender.^[23] In our institution, since the curriculum is vigorous, the perceived self-efficacy of females might have contributed to feeling of low self-efficacy due to internal anxiety to accomplish the clinical tasks. In our study, one observation was that as students approach their graduation, their confidence to treat patients was probably lower as part of their self-evaluation and that might account for a tendency for lower self-efficacy score in final-year students than in year 1 when the students just join the course and are full of confidence.

From the results of this study, it can be said that among dental undergraduates, procrastination exists from moderate to high levels and it is negatively related to self-efficacy. The results obtained in this study are limited to the students of the institution and hence cannot be considered representative of the dental student population of the whole country. More studies done on similar lines among dental undergraduates in Malaysia would help to understand the reasons for procrastination

and self-efficacy among these students and to see if cultural factors have any effect on these parameters.

Conclusions

This study concludes that among dental students, who are metacognitively aware of their tasks, procrastination is moderate to high. It was also observed that among dental undergraduates where tasks are skill oriented, low self-efficacy led to greater procrastination. Considering the heavy load of work that the students undergo, it would be prudent to arrange for group trainings and workshops that will arm students with strategies and skills for effective time management, planned studying, regulation of emotion and ability at problem-solving so that the tendency to procrastinate will be reduced and their self-efficacy would improve.

Acknowledgment

We acknowledge the support given by the management and the Dean, Faculty of Dentistry, students, faculty, and support staff of the institution for conducting this study.

Financial support and sponsorship

This study was financially supported by the institution.

Conflicts of interest

There are no conflicts of interest.

References

1. Olpin H. *Stress Management for Life: A Research-Based Experiential Approach*. 3rd ed. Belmont, CA: Wadsworth, Cengage Learning 2013. p. 181.
2. Popoola BI. A study of procrastinatory behaviour and academic performance of undergraduate students in South Western Nigeria. *J Soc Sci* 2005;11:215-8.
3. Klassen RM, Krawchuk LL, Rajani S. Academic procrastination of undergraduates: Low self-efficacy to self-regulate predicts higher levels of procrastination. *Contemp Educ Psychol* 2008;33:915-31.
4. Ferrari JR, Parker JT, Ware CB. Academic procrastination: Personality correlates with Myers-Briggs types, self-efficacy, and academic locus of control. *J Soc Behav Pers* 1992;7:495-502.
5. Ellis A, Knaus W. *Overcoming Procrastination: Rational Living*. Vol. 8. New York: Signet Books 1977. p. 5-7.
6. Tuckman B, Abry DS. *Learning and Motivation Strategies: Your Guide to Success*. 2nd ed. Upper Saddle River, N.J Prentice Hall; 2007.
7. Kármén D, Kinga S, Edit M, Susana F, Kinga KJ, Réka J. Associations between academic performance, academic attitudes, and procrastination in a sample of undergraduate students attending different educational forms. *Procedia Soc Behav Sci* 2015;187:45-9.
8. Steel P. The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychol Bull* 2007;133:65-94.
9. Tice DM, Baumeister RF. Longitudinal study of procrastination, performance, stress, and health: The costs and benefits of dawdling. *Psychol Sci* 1997;8:454-8.
10. Lubbers MJ, Van Der Werf MP, Kuyper H, Hendriks AA. Does homework behavior mediate the relation between personality and academic performance? *Learn Individ Differ* 2010;20:203-8.
11. Ying Y, Lv W. A study on higher vocational College Students' academic procrastination behavior and related factors. *IJEME* 2012;2:29-35.
12. Lai CS, Rahman A, Chandrasekaran K, Lee SY. An exploratory study on personality traits and procrastination among University Students. *Am J Appl Psychol* 2015;4:21-6.
13. Mallick MK, Singh K. Academic achievement of higher education students: Influence of academic procrastination and self-efficacy. *Man India* 2015;95:1091-103.
14. Wäschle K, Allgaier A, Lachner A, Fink S, Nückles M. Procrastination and self-efficacy: Tracing vicious and virtuous circles in self-regulated learning. *Learn Instr* 2014;29:103-14.
15. Sedky NA. Perceived sources of stress among junior & mid-senior Egyptian dental students. *Int J Health Sci (Qassim)* 2012;6:141-57.
16. Colley JM, Harris M, Hellyer P, Radford DR. Teaching stress management in undergraduate dental education: Are we doing enough? *Br Dent J* 2018;224:405-7.
17. Lakshminarayan N, Potdar S, Reddy SG. Relationship between procrastination and academic performance among a group of undergraduate dental students in India. *Dent Educ* 2013;77:524-8.
18. Lay CH. At last, my research article on procrastination. *J Res Pers* 1986;20:474-95.
19. Madhan B, Kumar CS, Naik ES, Panda S, Gayathri H, Barik AK. Trait procrastination among dental students in India and its influence on academic performance. *Dent Educ* 2012;76:1393-8.
20. Schwarzer R, Jerusalem M. Generalised self-efficacy scale. In: Wright WS, Johnston M. editors. *Measures in Health Psychology: A User's Portfolio Causal and Control Beliefs*. Windsor, England: NFER-NELSON; 1995. p. 35-7.
21. Polychronopoulou A, Divaris K. Perceived sources of stress among Greek dental students. *J Dent Educ* 2005;69:687-92.
22. Katz I, Eilat K, Nevo N. I'll do it later: Type of motivation, self-efficacy and homework procrastination. *Motiv Emot* 2014;38:111-9.
23. Chavez JF, Beltran FM, Guerrero AC, Enriquez MC, Reyes JJ. Gender study on college students' academic self-efficacy. *Sci J Educ* 2014;2:180-4.
24. Aziz N, Zain Z, Muhammad R, Raja Z, Mustapa AM, Mohd NH. Prioritizing causes of procrastination among university Students: An empirical analysis. *J Telecomm Elect and Comp Engg* 2017;9:179-83.
25. Onwuegbuzie AJ. Academic procrastination and statistics anxiety. *Assess Eval High Educ* 2004;29:3-19.
26. Ackerman DS, Gross BL. My instructor made me do it: Task characteristics of procrastination. *J Mark Educ* 2005;27:5-13.
27. Atalayin C, Balkis M, Tezel H, Kayrak G. Procrastination and predictor variables among a group of dental students in Turkey. *Psychol Heal Med* 2018;23:726-32.
28. Babu P, Chandra KM, Vanishree MK. Relationship between academic procrastination and self-esteem among dental students in Bengaluru City. *J Indian Assoc Public Heal Dent* 2019;17:146-51.
29. AlQudah MF, Alsubhien MQ. The relationship between the academic procrastination and self-efficacy among sample of King Saud University Students. *J Educ Pract* 2014;5:101-9.
30. Capri B, Ozkendir OM, Ozkurt B, Karakus F. General self-efficacy beliefs, life satisfaction and Burnout of University Students. *Procedia Soc Behav Sci* 2012;47:968-73.
31. Hackett G, Betz N. A self-efficacy approach to the career development of women. *J Vocat Behav* 1981;18:326-39.