

# ***Change of Academic Procrastination by Demographic Characteristics: A Research on University Students***

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**Abstract:** Academic procrastination leads to the delay of a job and at the same time it creates anxiety and stress. As a result of this situation, academic performance is negatively affected. Many variables can lead to the emergence of academic procrastination behaviour. This study aimed to examine the change of academic procrastination in university students with various demographic characteristics. A total of 260 students studying at 7 different faculties of a state university participated in the study, which was conducted using the survey model, one of the quantitative research methods. Research data were collected using academic procrastination scale and personal information form. The findings obtained as a result of the analysis revealed that while some of the variables discussed in the study had significant effects on academic procrastination, some did not affect it. Consistent with the results of the relevant research, it was seen that gender and academic performance had significant effects on academic procrastination, and it was determined that the variables of willingness for the department and accommodation status caused statistically significant differences on academic procrastination in university students. The results obtained from the study reveal the necessity for considering demographic and social factors as well as cognitive and psychological characteristics in studies on academic procrastination.

**Keywords:** academic procrastination, higher education, university students, demographic characteristics, Turkey

## ***Introduction***

Procrastination behaviour can be defined as delaying the start or completion of a job, delaying the completion of a task, or postponing a decision that needs to be made. The common conclusion reached in many years of research on procrastination is that procrastination is quite common (Onwuegbuzie, 2004; Solomon & Rothblum, 1984; Steel, 2007). The reasons for procrastination have been tried to be explained by theorists in different frameworks (Uzun Özer, 2009; Yaycı & Düşmez, 2016). The psychoanalytic theory explains the reason for procrastination as the ego's avoidance as a defence mechanism, or the avoidance behaviour stemming from anxiety, especially when the individual perceives it as a threat (Ferrari, et al, 1995; Uzun Özer, 2009; Yaycı & Düşmez, 2016). Cognitive behaviourists stated that procrastination stems from irrational, illogical thoughts or beliefs that people have (Ellis & Knaus, 1977; Uzun Özer, 2009). Theorists who adopt the behaviourist view, on the other hand, explain procrastination as a learned behaviour that provides short-term pleasure to individuals (Lamba, 1999; Uzun Özer, 2009). Social learning theory, in contrast, associates it with low self-regulation and self-efficacy beliefs, which are important variables in self-regulation (Bandura, 1986; Yaycı & Düşmez, 2016). Subsequent studies based on these basic explanations have also concluded that many variables, such as lack of self-regulation, inadequacy in time management, low sense of responsibility, distraction (Steel, 2007), lack of self-confidence, fear of failure, lack of motivation, and apathy all play a role in procrastination (Steel, 2007; Yaycı & Düşmez, 2016).

There are studies showing that procrastination, which can be seen in every period of life, is especially common among university students (Balkıs, 2006; Day, et al., 2000; Ellis & Knaus, 1977; Ferrari, et al., 2005; Onwuegbuzie, 2004; Özer & Altun, 2011; Solomon & Rothblum, 1984; Uzun Özer, et al., 2009; Vural & Gündüz, 2019). It is reported that at least 70% of university students (Ellis & Knaus, 1977), according to some estimates 80-95% (Steel, 2007), exhibit procrastination behavior, approximately 75% consider themselves to be procrastinators, and procrastination is continuous and problematic for almost 50% (Steel, 2007). Despite these high rates, another well-

known fact about procrastination is that this behaviour is disturbing. It is stated that students who postpone their academic duties experience negative consequences, so the majority of them want to reduce their academic procrastination behaviours (Grunschel, et al., 2013; Solomon & Rothblum, 1984; Steel, 2007).

Procrastination behaviour is reflected in academic life as delaying academic duties and responsibilities. Solomon and Rothblum (1984) state that academic procrastination is students' delaying and postponing of their tasks related to study, and that it leads to tasks that are not completed by the due date or they are completed in a hurry. Orpen (1998), who emphasizes the necessity for students to complete their tasks on time, without haste and adequately for academic success, states that it is not surprising that there is a negative relationship between student achievement at university and academic procrastination. As a matter of fact, Kim and Seo (2015), aiming to reveal the relationship between academic achievement and procrastination with a meta-analysis study, examined the results of 33 related studies involving 38,529 participants and revealed that there is a negative relationship between academic performance and procrastination. It has been emphasized that as a result of procrastination, low academic achievement is inevitable (Kim & Seo, 2015).

Following research in which the reasons for academic procrastination were investigated (Grunschel, et al., 2013), various cases have been collected and categorised as either internal or external reasons of procrastination. Among the internal categories, task characteristics such as complexity, difficulty, time, and novelty seemed to be dominant reasons for academic procrastination. Another important reason for procrastination among the external categories were lecturer characteristics such as being too demanding, disorganized, unsupportive, unsympathetic or having poor didactical competences (Zacks & Hen, 2018). Based on the results of numerous studies on the causes of academic procrastination, the conclusions seem to be that individual characteristics, such as self-regulation, self-efficacy, self-esteem, fear of failure, emotions, and personality are prominent factors (Wang, et al., 2021). Previous procrastination research has provided considerable support for seeing procrastination as a result of failure to self-regulate (Park & Sperling, 2012; Pychyl &

Flett, 2012; Wang, et al. 2021). In addition to cognitive deficits in self-regulation, procrastinators also show a lack of behavioural regulation. This indicates that procrastinators have difficulties adopting or maintaining a systematic and structured approach to studying (Park & Sperling, 2012).

Students who show academic procrastination behaviour, experience many problems such as academic failure, absenteeism, poor performance in classes, and finally dropping out of school (Knaus, 1998). There is also research that emphasises the fact that academic procrastination is negatively associated with health, wealth, and happiness (Zacks & Hen, 2018). However, it is known that individuals who exhibit procrastination behaviour feel restless and uncomfortable (Onwuegbuzie, 2004; Solomon & Rothblum, 1984). In a study in which the possible consequences of academic procrastination were discussed in depth, Grunschel et al. (2013) revealed that academic procrastination causes feelings such as uneasiness, anger, shame and remorse, and that it causes people to experience burnout and negative self-perception, while it can also lead to dropout, problems in relationships and feeling anxious about the future.

Since procrastination can negatively affect the individual's well-being, as well as their academic, social and psychological status, there is a need for a better understanding of the nature of this behaviour (Balkıs et al., 2006). While the researchers state that there is a need for more research examining the relationship between academic procrastination and various variables, it is emphasized that the effects of cultural processes should also be evaluated (Balkıs et al., 2006; Berber-Çelik & Odacı, 2015; Vural & Gündüz, 2019). The inconsistency of the results revealed in studies explaining the relationship between procrastination behaviour and demographic variables (Balkıs et al., 2006; Bedel, 2017; Demir & Kösterelioğlu, 2015) necessitates new studies on the subject to help understand and eliminate inconsistencies.

It is important to analyse the factors affecting procrastination behaviour well in order to prevent the negative situations that may be encountered as a result of it. There are numerous variables that can affect the emergence of academic procrastination behaviour. Numerous studies have shown that personal, cognitive, affective and motivational factors can all play a role in the emergence of procrastination in different ways. However, among the studies

conducted, there were no studies that discussed the relationship between academic procrastination and willingness for the department. This study aimed to make a new contribution to the knowledge that has been revealed by existing studies, by addressing the assumptions that university students' desire and satisfaction about their department and their accommodation status may have an effect on academic procrastination.

Furthermore, the present study aimed to examine the change of academic procrastination in university students in terms of various demographic characteristics. For this purpose, we examined whether academic procrastination differed in students according to gender, age, faculty, grade level, GPA, willingness for the department and accommodation status.

## ***Methodology***

### *Participants*

The sample consisted of 260 undergraduate students attending 7 different faculties of a state university in Turkey. Participants were at all grade levels from various education disciplines (e.g., economics, history, mathematics, early childhood education, nursing, industrial engineering, information systems, sport management, architecture) enrolled in four-year study programmes. The age of the participants ranged from 19 to 24 (mean=21.0, SD=1.2). Mean academic achievement, as measured by grade point average, was 2.67 (SD=0.99). 53.8% of the students in the sample chose the department they studied at voluntarily and were satisfied, while 13.1% stated that they did not choose their department voluntarily and were not satisfied. When the distribution of the study group was examined according to the accommodation status, it revealed that 78.5% of the students lived in the dormitory, 10% lived with their families and 11.5% with their housemates. The majority of participants were female (73.1%), and this rate reflects the gender distribution of the participating students in their departments. In the determination of the study group, the convenience sampling method was used due to limitations such as accessibility and practicing. The number of students to be included in the study was selected in accordance with their distribution in the

university according to their faculties. The participation in the study was voluntary and anonymous.

### *Data collection*

The data were gathered by the survey technique using data collection forms. The "Aitken Procrastination Inventory" was used to determine the academic procrastination level of the participants, and the "personal information form" was used to collect data on demographic characteristics.

With the "personal information form", information on demographic variables such as gender, age, grade level, department, faculty, and GPA was collected. In addition, students were asked about their choice of department and we tried to determine whether they chose their department voluntarily and whether they were satisfied at the moment. Another question included in the personal information form was about the accommodation status of the students.

The "Academic Procrastination Inventory" was developed by Aitken (1982) to measure students' procrastination of academic tasks. The scale consists of 19 items and measures a one-dimensional structure. Participants are asked to rate the items between 1 (false) and 5 (true) points on a 5-point Likert-type scale. The total score is calculated by reverse coding of the negative items, and the procrastination level of the student is determined based on the high scores obtained. As a result of validity and reliability analysis of the items while adapting the scale to Turkish, 3 items were removed from the scale, resulting in a total of 16 items used in the present study. The reliability of the scale was reported as being 0.89 and 0.87 (respectively) by Balkis (2006) by calculating the internal consistency coefficient and test-retest correlation coefficient. The internal consistency coefficient calculated to determine the reliability of the scale within the scope of the current study was found to be 0.86, and accordingly, it can be said that the Turkish form of the academic procrastination scale is a reliable tool for this study as well.

### *Data analysis*

The data collected in the study were arranged and examined in terms of the distribution and the characteristics of the data set. Thus, data obtained from the scale were firstly analyzed in order to determine the extreme value and missing data. It was seen that all of the data were used, and it was determined that there was no missing data in the data set. When standardized z values were examined, it was seen that there were no extreme values in the data set. In order to test whether the data showed a normal distribution, the Kolmogorov-Smirnov test was performed before each analysis and an evaluation was made about the normality of the distribution of the data. As a result, according to the results of all these preliminary analyses, the data set was analyzed using parametric and non-parametric tests.

In the analysis of the data, frequency, percentage, central tendency and change measures were determined as descriptive statistics, and t, Chi-Square and F statistics based on the comparison of mean, rank averages and variance were used for inferential statistics.

Arithmetic mean and standard deviation values were used to describe academic procrastination in university students. Since the data showed normal distribution in both groups according to the gender variable, whether academic procrastination in students differed by gender was analysed with the t-test in independent groups. Considering the demographic variables related to age, faculty, GPA, willingness for the department, and accommodation status, differences were determined by one-way analysis of variance (ANOVA) given the normal distribution of the data in all groups belonging to these variables. If the difference was found to be significant as a result of ANOVA, the LSD test, one of the post-hoc tests, was applied to determine from which group(s) the difference originated from. Since the data on the variables of grade level did not show normal distribution, the Kruskal-Wallis test was conducted to determine the differentiation status of academic procrastination in students according to these variables. Since the difference was not significant as a result of the Kruskal-Wallis tests, no multiple comparison test was required. The results were interpreted at the 0.05 significance level.

## Findings

As a result of the descriptive statistical analysis conducted to determine academic procrastination in university students, the academic procrastination scale mean score of the students included in the study was found to be 37.45. The lowest value that can be obtained from the scale is 16, and the highest value is 80. Accordingly, it can be said that academic procrastination in the study group is at a moderate level. Descriptive statistics on academic procrastination in university students are shown in Table 1.

**Table 1.** Descriptive statistics of academic procrastination scores

	<b>N</b>	<b>Mean</b>	<b>ss</b>	<b>Min</b>	<b>Max</b>
<b>Academic procrastination</b>	260	37.45	10.79	16	67

Table 1 shows that the academic procrastination scores of 260 university students participating in the study ranged from 16 to 67, with an average of 37.45.

Does academic procrastination in students differ according to gender? In order to solve the sub-problem, first of all, the normality of the data distributions of male and female students was tested with the Kolmogorov-Smirnov test, and it was observed that the data showed normal distribution in both groups ( $p=0.200$  for both groups). The difference between the academic procrastination mean scores of female and male students was analyzed by t-test in independent groups. Analysis results are shown in Table 2.

**Table 2.** Independent samples t-test results of academic procrastination scores for gender

	<b>N</b>	<b>Mean</b>	<b>Ss</b>	<b>sd</b>	<b>t</b>	<b>p</b>	<b>Cohen's d</b>
<b>Female</b>	190	36.64	10.53	258	-2.005	0.046	0.29
<b>Male</b>	70	39.62	11.24				

The p value calculated according to the t test results ( $t(258)=-2.005$ ,  $p<0.05$ ), in the independent groups in Table 2 is less than 0.05,

which is considered to be the statistical significance value, and shows that the null hypothesis was rejected. Accordingly, there is a statistically significant difference between the academic procrastination mean scores of male and female students. When the effect size of the difference is calculated with the Cohen's d formula, it is understood that the difference has a small effect ( $d=0.29$ ) (Cohen, 1992). When the mean scores in Table 2 are examined, it is seen that academic procrastination is lower in female students ( $\bar{x}=36.64$ ) than in male students ( $\bar{x}=39.62$ ).

One-way analysis of variance (ANOVA) was conducted to determine whether the age of university students has an effect on academic procrastination. When the normality of academic procrastination score distributions according to the age of the students was analyzed with the Kolmogorov-Smirnov test, it was determined that the data showed normal distribution in all age groups ( $p=0.200$ ). ANOVA test results are shown in Table 3.

**Table 3.** ANOVA results of academic procrastination scores for age

Source of variance	Sum of variance	df	Mean Square	F	p
Between groups	792.130	5	158.426	1.372	0.235
Within groups	29334.117	254	115.489		
Total	30126.246	259			

In Table 3, the null hypothesis was accepted according to the ANOVA results ( $F(5-254)=1.372$ ,  $p>0.05$ ), conducted to see if there was a significant difference between the academic procrastination scores of students aged between 19 and 24. According to this, academic procrastination in university students does not show a significant difference according to age.

Does academic procrastination in university students differ according to the faculty? ANOVA was carried out to solve this sub-problem. When the academic procrastination scores of the students in the study were examined according to their faculties, the score distributions were found to be normal for each faculty according to the

Kolmogorov-Smirnov test results ( $p > 0.05$ ). ANOVA test results are shown in Table 4.

**Table 4.** ANOVA test results of academic procrastination scores for faculty

Source of variance	Sum of variance	df	Mean Square	F	p
Between groups	506.033	65	84.339	0.720	0.634
Within groups	29620.213	253	117.076		
Total	30126.246	259			

When Table 4 is examined, it is understood that the results of the ANOVA test ( $F(6-253)=0.720$ ,  $p > 0.05$ ) support the null hypothesis. According to that, academic procrastination in university students does not show a significant difference according to the faculty of study.

The Kruskal-Wallis test was conducted to determine whether the grade level variable has an effect on academic procrastination. When the academic procrastination scores of the students in the study group were examined according to their grade levels, it was observed that there was a deviation from the normal distribution at the 3<sup>rd</sup> grade level ( $p=0.022$ ). Table 5 shows the results of the Kruskal-Wallis test, in which students' academic procrastination scores are compared according to grade level.

**Table 5.** Kruskal Wallis test results of academic procrastination scores for grade level

Groups	N	Mean Rank	df	$\chi^2$	p
1	20	136.13	3	4.312	0.230
2	36	137.93			
3	160	123.31			
4+	44	148.00			

As seen in Table 5, the values calculated as a result of the Kruskal-Wallis test ( $\chi^2=4.312$ ,  $p > 0.05$ ) indicate that academic procrastination does not show a statistically significant difference according to the grade level of the students.

One-way analysis of variance was carried out to test the null hypothesis stating that "academic procrastination does not change according to GPA in university students." When the distribution of students' academic procrastination scores according to the academic average was analyzed with the Kolmogorov-Smirnov test, it was concluded that the data were normally distributed in all groups. In addition, as a result of the Levene test performed to test the homogeneity of the variances, the p value was found to be 0.123 ( $p>0.05$ ), and accordingly, the variances of the groups were assumed to be equal. The ANOVA results, which were conducted to determine whether academic procrastination in university students show a significant difference based on GPA, are presented in Table 6.

**Table 6.** ANOVA test results of academic procrastination scores according to GPA

Source of variance	Sum of Squares	df	Mean Square	F	p	$\eta^2$
Between groups	2028.278	2	1014.139	9.163	0.00	0.06
Within groups	28002.722	253	110.683		0	
Total	30031.000	253				

According to the ANOVA test results ( $F(2-253)=9.163$ ,  $p=0.000$ ) presented in Table 6, academic procrastination in university students based on GPA shows a statistically significant difference at the level of .001. The effect size value of the difference, eta-squared ( $\eta^2=0.06$ ), showed that the difference had a moderate effect. According to the results of the LSD test, which is one of the multiple comparison tests conducted to determine the source of the difference, it is found that there were statistically significant differences between the group with a low GPA (0.00-1.99) and the group with a high GPA (3.00-4.00), and between the group with a medium GPA (2.00-2.99) and the group with a high GPA. As a result of the analysis, it was seen that the statistically significant difference stemmed from students with high GPA. The academic procrastination mean score of the students with a high GPA was found to be 31.6, and the academic procrastination mean score of the students with a medium and low GPA was found to be 38.07 and

38.90, respectively. According to these findings, it is concluded that academic procrastination is low in students with a high GPA.

"Does university students willingness for the department make a difference in the level of academic procrastination?" ANOVA was performed to answer the question. The distribution of students' academic procrastination scores according to the determined groups was found to be normal as a result of the Kolmogorov-Smirnov test ( $p > 0.05$  for each group), and the variance of the groups was found to be homogeneous as a result of the Levene test ( $p = 0.121$ ). Although the difference between all groups was not statistically significant as a result of the ANOVA test ( $p = 0.071$ ), a statistically significant difference at the level of 0.05 was determined between the two groups in the paired comparison tests ( $p = 0.012$ ). The academic procrastination point average was found to be 36.19 in the group of students who voluntarily chose their departments and were satisfied with their education, and 41.35 in the group of students who did not choose their departments voluntarily and were not satisfied with their education. These results show that the willingness for the department changes the academic procrastination behaviour.

Another demographic variable discussed in the study is accommodation. The accommodation status of the students in the study were put into three groups: in the dormitory, with their families and with their housemates. When the normality of academic procrastination score distributions according to the accommodation status of the students was tested with the Kolmogorov-Smirnov test, the results showed normality (for each group  $p > 0,05$ ). According to the Levene test results, the variances of the groups are homogeneous ( $p = 0.975$ ). ANOVA was performed to determine whether there was a significant difference between the academic procrastination scores of the students according to the accommodation status, and the results are shown in Table 7.

**Table 7.** ANOVA test results of academic procrastination scores for accomodation status

Source of variance	Sum of Squares	df	Mean Square	F	p	$\eta^2$
Between groups	800.475	2	400.237	3.508	0.031	0.03

Source of variance	Sum of Squares	df	Mean Square	F	p	$\eta^2$
Within groups	29325.771	257	114.108			
Total	30126.246	259				

According to the ANOVA test results ( $F(2-257)=3.508$ ,  $p<0.05$ ) in Table 7, academic procrastination shows a statistically significant difference according to the accommodation status of the students. It has been shown that the difference with the effect size value ( $\eta^2=0.03$ ) of the difference has a low to moderate effect. When the results of the LSD test, one of the multiple comparison tests, were examined, it was seen that the difference between the student group living in the dormitory and the student group living with their housemates was significant ( $p=0.009$ ). The average academic procrastination score of the students living in the dormitory was found to be 36.78, the average of the students living with their families was 37.04, and the average of the students living with their housemates was 42.30. According to these results, academic procrastination is significantly higher in students staying with housemates than students living in dormitories.

### ***Conclusion, Discussion and Recommendations***

The fact that academic procrastination is quite common among university students that can cause significant problems lead researchers to consider academic procrastination multidimensionally in terms of multiple variables. The present study aimed to contribute to the accumulation of knowledge on the subject by examining academic procrastination in terms of the demographic characteristics of university students, while also aiming to gain a new perspective on the phenomenon of academic procrastination by examining the effects of various variables that were not addressed in previous studies.

The results obtained in the study showed that the university students in the research group had a moderate level of academic procrastination. This seems to show that university students carry out their academic duties and responsibilities without too much delay. Similar to the results of the present study, there are results in related

studies that show that university students mostly show moderate and high-level academic procrastination behaviour (Haycock, et al., 1998; Vural & Gündüz, 2019). Uzun Ozer et al. (2009) stated that more than half of university students frequently show academic procrastination behaviour, while it is reported that the rates of students who always postpone studying for exams vary between 27% and 60% (Onwuegbuzie, 2004; Solomon & Rothblum, 1984; Uzun Özer et al., 2009). While low levels of academic procrastination among university students may be acceptable, studies report a strong tendency for students to procrastinate on their academic tasks. The fact that academic procrastination is found at a moderate level as a result of the study shows the necessity for solutions related to the subject, since it is an expected that university students are individuals able take on their own responsibilities and, as a result, they are expected to fulfil their academic duties and studies in a timely manner. To achieve this, the results of the research examining the causes of academic procrastination behaviour could provide important insight into best practices to prevent academic procrastination.

Comparing the results of the effects of gender, age, faculty, grade level and GPA variables discussed in this study with the results of previous research, it was seen that there were similarities, but there were also differences in the literature. The variable in which the research results show the most inconsistency is gender, and according to the result of this study, the academic procrastination level of male students is higher than that of female students. Although similar results are more common in related studies dealing with the gender variable (Balkıs et al., 2006; Berber Çelik & Odacı, 2015; Çelikkaleli & Akbay, 2013; Demir & Kösterelioğlu, 2015; Gün, et al., 2019; Özer, et al., 2009; Yayıcı & Düşmez, 2016; Vural & Gündüz, 2019), there are studies reporting that gender does not lead to a difference in academic procrastination (Çeri, et al., 2015; Ferrari, 2001; Ekşi & Dilmaç, 2010; Motie, et al., 2012; Onwuegbuzie, 2004; Solomon & Rothblum, 1984), and, on the other hand, Balkıs et al. (2006) state that there are studies reporting that female students show more academic procrastination behavior than male students, albeit in smaller numbers. As a result of the research in which the effect of gender on academic procrastination was examined with a meta-analysis study (Çikrikci & Erzen, 2016), it is reported that male students exhibit more academic procrastination

behaviour than female students, similar to the findings of our study. As a result of their meta-analysis study in which they examined 25 studies, Çikrıkci and Erzen (2016) stated that the effect of gender on academic procrastination in Turkey is higher than in other countries. If all these research results are evaluated together, it is thought that the explanation of gender-based differences in academic procrastination can only be possible with a holistic approach taking into account cultural, social and individual factors.

The result of the study, which revealed that academic procrastination in university students did not differ significantly according to age, grade level and the chosen faculty, aligns well with the findings of previous studies, but there are also differences that can be observed. While some of the relevant studies state that academic procrastination is not influenced by grade level (Gün et al., 2019; Uzun Özer et al., 2009), other studies suggest that in certain it can be influenced by it (Berber Çelik & Odacı, 2015; Çelikkaleli & Akbay, 2013; Çeri et al., 2015; Ekşi & Dilmaç, 2010). When examined according to the department and faculty variable, it is seen that studies claiming that academic procrastination behaviour do not change are more common (Berber Çelik & Odacı, 2015; Demir & Kösterelioğlu, 2015; Vural & Gündüz, 2019). Consequently, the literature on whether procrastination behaviour is influenced by variables such as age, grade level, department and faculty is inconsistent. This suggests that academic procrastination behaviour emerges independently of the relevant variables, and that these variables do not directly affect academic procrastination, but may have significant effects together with uncontrollable variables.

The results regarding whether GPA of the students has an effect on their academic procrastination behaviour showed that the level of academic procrastination was low in students with high GPA. According to many research reports supporting this result, students with high academic procrastination have low academic achievement (Balkıs et al., 2006; Berber Çelik & Odacı, 2015; Çeri et al., 2015; Yayıcı & Düşmez, 2016). As a result of the meta-analysis study by Kim and Seo (2015), in which 33 related studies were examined, it was revealed that there is a negative relationship between academic procrastination and academic success. Considering that students with a high level of academic procrastination cannot fulfil their academic requirements, duties and

responsibilities on time, cannot studying for their classes on time, and prepare for exams without delay, it is an expected and known result that their academic performance is low. Preventing the negative consequences of academic procrastination on academic achievement will be possible by clearly identifying the factors that cause academic procrastination and turning it into practical applications. In this direction, planning the education in accordance with the level of the student, stating the expectations regarding the assignments, preparing the exam schedule according to the student, and giving the necessary guidance and counselling, are among the most important suggestions that are thought to be effective in preventing academic procrastination behaviour.

As a result of the data analysis made with the assumption that the willingness for the department may have an effect on academic procrastination, it was determined that the academic procrastination of the students who voluntarily chose their department and were satisfied with their education was lower than the students who did not choose their department voluntarily and were not satisfied with their education. Although it is an expected result, the fact that there is no study examining the related variable in the literature shows that new research is needed. Thus, with the holistic evaluation of the results, a different contribution can be made to the efforts of university students to reduce their academic procrastination behaviours.

In the analyses examining whether academic procrastination is affected by the accommodation status of university students, a remarkable result was reached, i.e., it was seen that the level of academic procrastination level of the students staying in the dormitory was significantly lower than those students' who were living with their housemates. It was concluded that staying with the family did not make a significant difference on academic procrastination. It can be thought that the fact that the students living in the dormitory live together with many students from various departments and in different conditions, makes students' interactions multidimensional and causes them to be more conscious and motivated in fulfilling their responsibilities. Nevertheless, the lack of other research to corroborate this result is a limitation to making extensive claims. For this reason, there is a need for new studies to evaluate different variables that may have an effect on academic procrastination behaviour.

It is seen that studies on academic procrastination are mostly focussed on the cognitive and psychological characteristics of students, but the results obtained from this study reveal the necessity for considering demographic and social factors as well. Despite all the known negative effects of academic procrastination, students' insistence on these behaviours requires, first of all, to reveal the causes and the consequences of this behaviour. Fortunately, there are already some studies geared towards this direction in the literature. However, it is only with an increase in the number of studies aiming to determine the factors affecting academic procrastination will it become possible to make new suggestions and contributions towards preventing this behaviour.

## References

- Aitken, M. E. (1982). *A personality profile of the college student procrastinator*. Unpublished Doctoral Dissertation, University of Pittsburgh, Pittsburgh.
- Balkıs, M. (2006). *The relationships between student teachers' procrastination behaviors, thinking and decision making styles*. Unpublished doctoral dissertation, University of Dokuz Eylül, Izmir, Turkey.
- Balkıs, M., Duru, E., Buluş, M., & Duru, S. (2006). An investigation of the academic procrastination among university students in related to various variables. *Ege Journal of Education*, 7(2), 57-73.
- Bandura, A. (1986). *Social foundations of thought and action*. Upper Saddle River, NJ: Prentice Hall.
- Bedel, E. F. (2017). The role of mindfulness and metacognitive awareness in predicting academic procrastination in pre-service early childhood teachers. *Journal of Higher Education and Science*, 7(3), 504-514.
- Berber Çelik, Ç., & Odacı, H. (2015). Explanation of academic procrastination by some personal and psychological variables. *Hacettepe University Journal of Education*, 30(3), 31-47.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159. <https://doi.org/10.1037/0033-2909.112.1.155>
- Çelikkaleli, Ö., & Akbay, S. (2013). The investigation of university students' academic procrastination, general self-efficacy belief and responsibility. *Ahi Evran University Journal of Kırşehir Education Faculty*, 14(2), 237-254.
- Çeri, K. B., Çavuşoğlu, C., & Gürol M. (2015). Investigation of academic procrastination levels of the undergraduates. *The Journal of Academic Social Science Studies*, 34, 385-394. <http://doi.org/10.9761/JASSS2721>
- Çikrıkci, Ö., & Erzen, E., (2016). Gender differences on academic procrastination: meta-analysis. *Hacettepe University Journal of Education*, 31(4), 750-761. <https://doi.org/10.16986/HUJE.2016015387>

- Day, V., Mensink, D., & O'Sullivan, M. (2000). Patterns of academic procrastination. *Journal of College Reading and Learning*, 30(2), 120-134. <https://doi.org/10.1080/10790195.2000.10850090>
- Demir, F., & Kösterelioğlu, İ. (2015). The investigation of the academic procrastination tendencies of prospective teachers. *The Journal of International Social Research*, 8(39), 595-603.
- Ekşi, H., & Dilmaç, B. (2010). An examination of general procrastination, decisional procrastination, and academic procrastination with respect to trait-anxiety among a group of college students. *Journal of Uludag University Faculty of Education*, 23(2), 433-450.
- Ellis, A., & Knaus, W. J. (1977). *Overcoming procrastination*. New York: Institute for Rational Living.
- Ferrari, J. R., Johnson, J. L., & McCown, W. G. (1995). *Procrastination and Task Avoidance, Theory, Research, and Treatment*, Springer, Boston, MA.
- Ferrari, J. R. (2001). Procrastination as self-regulation failure of performance: effects of cognitive load, self-awareness, and time limits on 'working best under pressure'. *European Journal of Personality*, 15(5), 391-406. <https://doi.org/10.1002/per.413>
- Ferrari, J. R., O'Callaghan, J., & Newbegin, I. (2005). Prevalence of procrastination in the United States, United Kingdom, and Australia: Arousal and avoidance delays among adults. *North American Journal of Psychology*, 7, 1-6.
- Fraenkel, J. R., & Wallen, N. E. (2006). *How to Design and Evaluate Research in Education*. 6th ed. NY: McGraw-Hill, New York.
- Grunschel, C., Patrzek, J., & Fries, S. (2013). Exploring the reasons and consequences of academic procrastination: an interview study. *European Journal of Psychology of Education*, 28, 841-861. <https://doi.org/10.1007/s10212-012-0143-4>
- Gün, F., Turabik, T., & Atanur Baskan, G. (2020). The relationship between academic self-efficacy and academic procrastination tendency: a study on teacher candidates. *Hacettepe University Journal of Education*, 35(4), 815-826. <https://doi.org/10.16986/HUJE.2019051688>
- Haycock, L. A., McCarthy, P., & Skay, C. L. (1998). Procrastination in college students: The role of self-efficacy and anxiety. *Journal of Counseling & Development*, 76(3), 317-324. <https://doi.org/10.1002/j.1556-6676.1998.tb02548.x>

- Kim, K. R., & Seo, E. H. (2015). The relationship between procrastination and academic performance: A meta-analysis. *Personality and Individual Differences*, 82, 26–33. <https://doi.org/10.1016/j.paid.2015.02.038>
- Knaus, W.J. (1998). *Do it now! Break the procrastination habit*. New York: John WileyveSons, Inc.
- Lamba, G. (1999). *Effects of gender-role and self-efficacy on academic procrastination in college students*. Unpublished Master's Thesis. Missouri: Truman State University.
- Motie, H., Heidari, M., & Sadeghi, M. A. (2012). Predicting academic procrastination during self-regulated learning in Iranian first grade high school students. *Procedia - Social and Behavioral Sciences*, 69, 2299-2308.
- Onwuegbuzie, A. J. (2004). Academic procrastination and statistics anxiety. *Assessment & Evaluation in Higher Education*, 29(1), 3-19. <https://doi.org/10.1080/0260293042000160384>
- Orpen, C. (1998). The causes and consequences of academic procrastination: a research note, *Westminster Studies in Education*, 21(1), 73 - 75. <https://doi.org/10.1080/0140672980210107>
- Özer, A., & Altun, E . (2011). The reasons for academic procrastination among university student. *Mehmet Akif Ersoy University Journal of Education Faculty*, 1(21), 45-72.
- Park, S. W., & Sperling, R. A. (2012). Academic procrastinators and their self-regulation. *Psychology*, 3(1), 12 - 23. <https://doi.org/10.4236/psych.2012.31003>
- Pychyl, T. A., & Flett, G. L. (2012). Procrastination and self-regulatory failure: An introduction to the special issue. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 30(4), 203–212. <https://doi.org/10.1007/s10942-012-0149-5>
- Solomon, L. J., & Rothblum, E. D. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of Counseling Psychology*, 31(4), 503 - 509. <https://doi.org/10.1037/0022-0167.31.4.503>
- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, 133(1), 65 - 94. <https://doi.org/10.1037/0033-2909.133.1.65>

- Uzun Özer, B. (2009). Academic procrastination in group of high school students: frequency, possible reasons and role of hope. *Turkish Psychological Counseling and Guidance Journal*, 4(32), 12-19.
- Uzun Özer, B., Demir, A., & Ferrari, J. R. (2009). Exploring academic procrastination among Turkish students: Possible gender differences in prevalence and reasons. *The Journal of Social Psychology*, 149(2), 241-257. <https://doi.org/10.3200/SOCP.149.2.241-257>
- Vural, L., & Gündüz, G. F. (2019). The relationship between academic procrastination behaviors and cognitive awareness levels of prospective teachers. *Elementary Education Online*, 18(1), 307-330. <https://doi.org/10.17051/ilkonline.2019.527226>
- Wang, Y., Gao, H., Sun, C., Liu, J., & Fan, X. L. (2021). Academic procrastination in college students: The role of self-leadership. *Personality and Individual Differences*, 178(2021), 110866. <https://doi.org/10.1016/j.paid.2021.110866>.
- Yaycı, L., & Düşmez, İ. (2016). Analysis of the academic procrastination behaviors of adolescents in terms of certain variables. *OPUS International Journal of Society Researches*, 6(10), 80-101.
- Zacks, S., & Hen, M. (2018) Academic interventions for academic procrastination: A review of the literature. *Journal of Prevention & Intervention in the Community*, 46(2), 117-130. <https://doi.org/10.1080/10852352.2016.1198154>