

Academic Procrastination and Motivational Factors of Turkish EFL Learners: A Correlational Study ¹

Ahmet MUNZER MARDİNİ² & Fadime YALÇIN ARSLAN³

²MA., Gaziantep University, Gaziantep, TURKEY
ahmadmonzer.mar@gmail.com

ORCID: 0000-0003-0644-5636

³Assoc. Prof. Dr., Gaziantep University, Gaziantep, TURKEY
fyalcin80@gmail.com

ORCID: 0000-0002-5673-5087

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Abstract: This study aims to assess the level of academic procrastination among Turkish EFL learners, and how it varies depending on their proficiency level of Turkish EFL learners. It attempts to explore the relationship between procrastination, self-esteem, self-efficacy and self-regulation among Turkish EFL learners. This research was conducted among students enrolled in a preparatory program at a state university in Turkey who were attempting to acquire English. There were 202 participants in total, with 64 females and 138 males. The participants were given a 44-item questionnaire to complete. There were three levels of proficiency involved in the study: A2, B1, and B1+. The participants are between the ages of 18 and 26. The findings revealed that Turkish EFL students had a moderate level of procrastination. There are no differences between the responses of the participants based on their English level. Procrastination was significantly negatively correlated with self-esteem, self-efficacy, and self-regulation.

Anahtar Sözcükler:

Akademik erteleme, motivasyonel faktörler, dil öğrenme

Yabancı Dil Olarak İngilizce Öğrenen Türk Öğrencilerde Akademik Erteleme ve Motivasyonel Faktörler: İlişkisel Bir Araştırma

Özet: Bu araştırmanın amacı, Yabancı Dil olarak İngilizce öğrenen (EFL) Türk öğrencilerin akademik erteleme seviyesini bulmak ve bunun öğrencilerin İngilizce seviyelerine göre nasıl farklılaştığını ortaya koymaktır. Çalışma, yabancı dil olarak İngilizce öğrenen Türk öğrencilerinin erteleme, benlik saygısı, öz-yeterlik ve öz düzenleme davranışları arasındaki ilişki tespit etmeye çalışmaktadır. Bu araştırmanın katılımcıları Türkiye’de bir devlet üniversitesinin hazırlık programına kayıtlı 202 öğrencidir. Bunların 64’ü kız ve 138’i erkek öğrencidir. Bu öğrencilere 44 sorudan oluşan bir anket verilmiş ve A2, B1 ve B1+ seviyeleri dikkate alınmış ve 18 ile 26 yaş aralığı İngilizce öğrencileri seçilmiştir. Tezin bulguları, katılımcıların erteleme düzeyinin orta seviyede olduğunu göstermiştir. Katılımcıların ertelemeyle ilgili sorulara verdikleri cevaplarla ilgili olarak İngilizce seviyeleri dikkate alındığında da seviyeler arasında herhangi bir farklılık bulunmamaktadır. Son olarak, erteleme, İngilizceyi yabancı dil olarak öğrenen Türk öğrencilerinin benlik saygısı, öz-yeterlik ve öz-düzenleme alışkanlıkları ile olumsuz yönde ilişkili olduğu gözlemlenmiştir.

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¹This study is based on a part of an MA study that was carried out by the first researcher and supervised by the second researcher.

1. Introduction

The terms “postponing”, “putting off” and “delaying” are closely associated with the term “procrastination” (Aydogan & Akbraov, 2018), which is a very prevalent problem in our lives. Procrastination, according to Ojo (2019), is a behavior everyone might exhibit in regardless of their life circumstances. In our modern lives, procrastination is unavoidable as we have many tasks to perform during the day. Some researchers found that going through medical exams, paying taxes, and paying bills are only a few of the tasks related to the many aspects of life where people procrastinate (Ferrari, Johnson & McCown, 1995). Meanwhile, Gröpel and Kuhl (2009) claimed that jobs, everyday routines, health, leisure, and social contacts are the other examples where procrastination occurs. Steel and Klinsieck (2016) also found greater instances of procrastination in a variety of settings, including schools, daily activities, obligations, free time, family, relationships, and social contacts. In fact, procrastination occurs not only in the context of “daily life”, but also in schools and academic settings. Consequently, academic procrastination was coined by various scholars, who characterized it as deferring or postponing academic tasks till the last possible moment (Philips, 2012; Solomon & Rothblum, 1984). Procrastination is considered a common phenomenon among individuals in academic domains, according to Bakar and Khan (2016), most students procrastinate until the last minute of their academic lives. Academic procrastination is typically observed in academic activities such as term paper writing, exam preparation, and assignment completion (Solomon & Rothblum, 1984; Steel, 2010). Several empirical studies have been carried out to learn more about the number of students procrastinate in their academic activities. According to Steel (2007), 95% of American students engage in academic procrastination, whereas 30% to 45% of African-American undergraduate students have issues with academic procrastination in the study of Clark and Hill (1994). Other studies have found that more than 70% of undergraduate students admit to procrastinating frequently during academic tasks (Schraw, Wadkins, & Olafson, 2007). According to a study conducted with a sample of 300 Damascus University students, more than 75% of the students engaged in academic procrastination (Al-Zoubi, 2017). Previous research on procrastination had been conducted in Turkey, where the current study was conducted. A study of 213 Turkish EFL learners (Aydogan & Akbarov, 2018) discovered a moderate level of academic procrastination ($M=2.51$). Another study implemented in Turkey among 372 learners studying in various departments at a state university found a moderate level of academic procrastination (Karaoglu & Yalcin, 2020). Another study revealed that more than 80% of Turkish students delay their academic tasks at least once a day (Klassen & Kuzucu, 2009). According to Çakıcı (2003), although the majority of procrastination studies “master or doctoral thesis” have not yet been published, research findings in Turkey showed that academic procrastination is common among students in varying percentages.

Klassen and Kuzucu (2009) conducted intriguing research with adolescents in secondary school in Konya, Turkey, to relate academic procrastination to the associated motivation variables. Academic procrastination was found to be correlated with self-efficacy, self-regulation, and self-esteem in the study. The majority of the students reported spending an hour per day procrastinating. Many researchers, however, believe that procrastination is related to a number of other variables that can increase or decrease its likelihood. As a result, further studies have found that procrastination is associated with psychological constructs such as self-efficacy, self-esteem, and self-regulation (Howell, Watson, Powell & Buro, 2006; Klassen, Krawchuk & Rajani, 2008). Klassen et al. (2008) discovered a correlation between academic procrastination and grade point average (GPA), as well as motivation factors, such as self-efficacy, self-esteem, and self-regulation. The findings revealed that students with

higher levels of self-regulation had lower levels of academic procrastination, whereas students with higher levels of self-esteem and self-efficacy were less likely to procrastinate.

Procrastination has been linked to numerous psychological notions. According to several researchers, these beliefs include anxiety, low self-esteem, and depression (Abbasi & Alghamdi, 2015; Beswick, Rothblum & Mann, 1988). Çakıcı (2003) indicated that when one has low self-esteem, one is more likely to procrastinate, vice versa. Another concept associated with procrastination is self-efficacy. Self-efficacy is defined by Bandura (1997) as students' belief that they are capable of achieving the desired results, and Bandura (1986) was the first to introduce the relationship between procrastination and self-efficacy. According to social cognitive theory, self-efficacy is regarded as one's beliefs in their abilities to perform a task in a specific situation. (Bandura, 1986, 1997). Some research studies have found that students with high general self-efficacy are less likely to procrastinate (Ferrari, 1992), and it varies from a number of other self-esteem concepts (self-esteem and self-concept). Gist and Mitchell (1992) mentioned self-efficacy in particular in a specific task, "Self-esteem is usually considered to be a trait reflecting an individual's characteristic affective evaluation of self (e.g., feeling of self-worth or self-liking). Self-efficacy, on the other hand, is a judgment about task capability that is not inherently evaluative" (p.185).

Similarly, Ferrari (2001) suggested that procrastination be viewed as a "self-regulation of performance" at times (p. 391). According to Wolters (2003), academic self-efficacy is the strongest predictor of procrastination, followed by self-regulation. Self-regulation is one of the keys to understanding procrastination.

Furthermore, Fee and Tangney (2000) showed that procrastination is more than just a time management issue; it is a dynamic mechanism involving affective, cognitive, and behavioral components. Therefore, procrastination should be examined from various perspectives. For this reason, it is crucial to conduct research on it, particularly on self-esteem, self-efficacy, and self-regulation. More specifically, according to a study conducted by Klassen et al. (2008) and Geng, Han, Gao, Jou, and Huang (2018), procrastination is widespread in academic contexts.

Despite the fact that procrastination has become very common, particularly among students, many scientists have emphasized the importance of further research on this topic (Adu, 2014; Kachgal, Hansen & Nutter, 2001; Steel, 2007). The primary focus of this study is academic procrastination, which is defined as the postponement of academic tasks (Solomon & Rothblum, 1984). Students who have engaged in academic procrastination may be experiencing psychological issues such as depression, anxiety, guilt, and unhappiness (Steel, 2007). Therefore, reducing academic procrastination is critical to improving education quality (Wäschle, Allgaier, Lachner, Fink & Nückles, 2014). Klassen et al. (2008) added that procrastination is a partially unexplored construct. Furthermore, Lee (2005) found that motivation is a significant factor influencing students' procrastination. Kandemir (2014) found a negative relationship between motivation and procrastination. Nevertheless, neither researcher investigated the relationship between motivational variables (self-esteem, self-efficacy, and self-regulation). Katz, Eilot, and Nevo (2014) supported this idea by stating that it is unclear how motivation influences someone's decision to procrastinate. The relationship between procrastination and other psychological constructs is undeniably not well understood. Since there is a lack of research in this area, this study will help improve academic understanding and contribute to closing this gap by studying the relationship between the motivation variables and academic procrastination.

It is crucial to understand procrastination in relation to other variables that arise from a lack of motivation, such as self-esteem, self-efficacy, and self-regulation (Tuckman & Sexton 1992). The purpose of this study is to assess the level of academic procrastination among Turkish EFL learners. Furthermore, it seeks to identify academic procrastination rates among Turkish EFL learners at various English proficiency levels. Finally, this study also investigates the relationship between academic procrastination and self-esteem, academic procrastination and self-efficacy, and academic procrastination and self-regulation in a case study with Turkish EFL learners from a university preparatory program.

1. The goal of the present study is to address the following research questions:
2. To what extent do Turkish EFL learners engage in academic procrastination?
3. What is the relationship between academic procrastination and self-esteem among Turkish EFL learners?
4. What is the relationship between academic procrastination and self-efficacy among Turkish EFL learners?
5. What is the relationship between academic procrastination and self-regulation among Turkish EFL learners?

2. Method

2.1. Research Design

A descriptive study using a quantitative research approach with a correlational design was employed to determine whether there is a relationship between academic procrastination and self-esteem, academic procrastination and self-efficacy, and academic procrastination and self-regulation among Turkish EFL learners. The study investigates the type of relationship that exists between various aspects of academic procrastination and self-esteem, self-regulation, and self-efficacy. In this current study, a survey method was utilized as survey methods are used to answer questions that have been posted, to solve problems that have been raised or identified, and, in general, to explain what occurs or how much occurs and in what context (Isaac & Michael, 1995). For this reason, the participants were given questionnaires about procrastination, self-esteem, self-efficacy, and self-regulation in order to collect quantitative data.

2.2. Participants

A total of 202 Turkish EFL students enrolled in an English preparatory program at a state university took part in the study. All students are required to take an English proficiency test at the beginning of the new academic year. Students enrolled in a preparatory program before the first term of the following academic calendar if they fail the test or are unable to provide relevant documentation. The students who were all Turkish native speakers enrolled in a tertiary level English program at a Turkish state university, and they came from a variety of faculties, including engineering, medicine, business, and English literature.

Five of the 207 subjects were excluded due to a lack of responses. Therefore, the total number of participants in the study was 202. The study included three English language levels; A2, B1, and B1+, which were all specified by the institution. Students at the A1 level were excluded from the study because their interaction with English instruction at the university level was deemed insufficient. There were 89 students in the A2 level, 96 in the B1 level, and 17 in B1+ level (see Table 1). The sample included 64 female and 138 male students ranging in age from 18 to 26 years.

Table 1.

The Total Number and the Gender of the Participants

	N	Female	Male
A2	89 (44.06 %)	20	69
B1	96 (47.52 %)	38	58
B1+	17 (8.42 %)	6	11
Total	202 (100%)	64 (31.68%)	138 (68.32%)

According to Table 1, there were 202 participants who were divided into three groups based on their English proficiency levels:

- A2: had 89 participants, 20 of whom were females, and 69 of whom were males.
- B1: had 96 participants, 38 of whom were females, and 58 of whom were males.
- B1+: had 17 participants, 6 of whom were females, and 11 of whom were males.

Therefore, the total number of females was 64, while the total number of males was 138.

2.3. Data Collection and Instruments

Three instruments were employed to collect data, all of which were questionnaires. The Tuckman Procrastination Scale, developed by Tuckman in 1991, was the first tool for measuring procrastination. This version of the tool included sixteen items that were rated on a four-point scale (1: Strongly disagree, 4: Strongly agree). This tool is available in Turkish, which was used in this study (Özer, Saçkes & Tuckman, 2013). The Motivated Strategies for Learning Questionnaire Manual (MSLQ) was the second tool. In this study, two sections of the MSLQ were utilized. The first is the Self-Efficacy for Learning and Performance survey, which includes eight items to assess self-efficacy (scale). The second section is Metacognitive Self-Regulation, which includes twelve items to assess self-regulation (scale). The final tool is the Rosenberg Self-Esteem Scale (SES), which includes ten items to assess self-esteem (scale).

2.3.1. Turkish Procrastination Scale

This scale was used to assess academic procrastination in Turkish EFL students. Tuckman invented this tool, which was originally a 72-item scale (1991). Two reliability coefficients were calculated for the 14-item Turkish version of the Tuckman Procrastination Scale. The first sample had a reliability of .90, while the second had a reliability of .85 (Özer et al., 2013). The Turkish version was used for the current study, with 14 items rated on a four-point scale (1: Strongly disagree, 4: Strongly agree). The Cronbach's alpha for the current study was .67. The internal consistency was satisfactory.

2.3.2. Motivated Strategies for Learning Questionnaire Manual (MSLQ)

The MSLQ is an 81-item questionnaire designed to assess students' motivational orientation and use of a variety of learning strategies. It was divided into two broad categories; the first is a motivation section with 31 items, and the second is a learning strategies section with 50 items (Pintrich, Smith, Garcia & McKeachie, 1991). Participants are typically rated on a 7-point Likert scale, ranging from 1 (not at all true of me) to 7 (very true of me). The means of the items were used to calculate the scores. Two sections of the MSLQ were utilized in this study: self-efficacy for learning and performance and metacognitive self-regulation.

a. Self-Efficacy for Learning and Performance

The fifth subscale of the first category of the MSLQ tool was used in this study to measure self-efficacy; the items are 5, 6, 12, 15, 20, 21, 29, 31, and the Cronbach's Alpha of this tool was .93, while the Cronbach's Alpha of this study was .91. The internal consistency was excellent.

b. Metacognitive Self-Regulation (MSLQ)

Subscale number 5 of the second category of the MSLQ tool was used to measure metacognitive self-regulation; the items are 33, 36, 41, 44, 54, 55, 56, 57r, 61, 76, 78, 79, and Cronbach's Alpha of this tool was .79, while the Cronbach's Alpha for this study was .70. The internal consistency was satisfactory. Items 33 and 57 should be calculated as reversed.

2.3.3. *Rosenberg Self-Esteem Scale (SES)*

The SES is a tool for assessing self-esteem and both positive and negative feelings about oneself, such as, "I take a positive attitude toward myself" and "I feel that I have several good qualities". It is a 10-item scale with a 4-point Likert scale format that ranges from strongly agree to strongly disagree, and items 2, 5, 6, 8, and 9 were reverse scored (Rosenberg, 1965). Higher scores indicated a higher level of self-esteem. The Cronbach's alpha for this tool ranges from .77 to .88 (Blascovich, Tomaka, Robinson, Shaver & Wrightsman, 1991; Rosenberg, 1965), while the Cronbach's alpha for this study is .84. The internal consistency was good.

The three tools were collected and numbered from 1 to 44. The required permission was obtained from the institution prior to conducting the research. Following that, the participants were briefed on the purpose of the research, as well as with a short introduction to the questionnaires, and were assisted by English teachers from the institution. They were verbally informed that their responses would be kept private and used only for research purposes.

2.4. Data Analysis

The inferential statistics for the first research question were calculated using a one-way ANOVA (Victor & Patil, 2016). A one-way ANOVA compares the means between the groups to determine if they differ significantly from one another (Dörnyei, 2007). Therefore, it was used in the study to see if the rate of academic procrastination varied significantly depending on the level of English of Turkish EFL learners. Furthermore, Pearson product-moment correlation was used to examine the relationship between Turkish EFL learners' academic procrastination and their self-esteem (for the second research question), academic procrastination and their self-efficacy (for the third research question), and academic procrastination and their self-regulation (for the fourth research question).

3. Findings

To address research question 1, descriptive statistics were used to determine the level of academic procrastination among Turkish EFL learners, and a Pearson product-moment correlation was used for research question 2 to examine whether there is a correlation between Turkish EFL students' academic procrastination and their self-esteem. For research question 3, a Pearson product-moment correlation was employed to see whether there is a

correlation between Turkish EFL students' academic procrastination and their self-efficacy. Finally, a Pearson product-moment correlation was used to investigate whether there is a correlation between Turkish EFL students' academic procrastination and their self-regulation.

3.1. To what extent do Turkish EFL learners engage in academic procrastination?

Skewness and Kurtosis statistical values were calculated to determine whether the sample data was normally distributed. The results are shown in Table 2.

Table 2.

Normality Statistics for Procrastination Scales

	Skewness		Kurtosis	
	Value	Std.Error	Value	Std.Error
Procrastination	-.13	.17	.99	.34

Table 2 shows that the data on the procrastination scale were normally distributed, with a Skewness statistic of -.13 and a Kurtosis value of .99. George and Mallery (2019) state that the Skewness and Kurtosis values are between -1 and +1 are considered excellent for most psychometric purposes.

The data for this research question, which aims to determine the level of academic procrastination among Turkish EFL learners, were obtained from the procrastination questionnaire. The level of academic procrastination was determined using descriptive analysis. The survey data were interpreted using the following score range: 1.00 to 1.33 as low academic procrastination level, 1.33 to 2.66 as moderate, and 2.66 to 4.00 as high academic procrastination. The results are presented in Table 3 below.

Table 3

Academic Procrastination Levels of Turkish EFL Learners

	N	Minimum	Maximum	Mean	S.D.
Level of Procrastination Valid	202	1.13	3.56	2.51	.35
N (listwise)	202				

As seen in Table 3, the level of academic procrastination among Turkish learners who took part in this survey was moderate, at 62.75 %, with a mean value of 2.51. According to the data collected from the 202 questionnaires, the average level of academic procrastination among these Turkish EFL learners was 2.51. The lowest score obtained by the Turkish EFL learners who took the survey was 1.13, while the highest was 3.56. Furthermore, the standard deviation of participants' scores on academic procrastination was 0.35.

3.2. What is the relationship between procrastination and self-esteem for Turkish EFL learners?

Pearson's product-moment correlation was used to examine the relationship between the Turkish EFL learners' procrastination level and their self-esteem. Table 4 displays the results of Pearson's product-moment correlation.

Table 4

Values Used in the Interpretation of Relationships between variables

Correlation Coefficient	Relationship
0.70 - 1.00	High
0.70 - 0.30	Moderate
0.30 - 0.00	Low

When the correlation coefficient is calculated, it is considered high between 1.00 – 0.70, moderate if the value is between 0.70 – 0.30, and low between 0.30 – 0.00 (Büyüköztürk, 2002). The signs (-or +) of the correlation in Pearson product-moment correlation affect the interpretation. If positive, then as the value of one variable increases, so will the value of the other. Furthermore, the sign of the correlation coefficient indicates the relationship between variables. To answer the third research question, a Pearson correlation was used to determine the relationship between academic procrastination and their self-esteem among Turkish EFL learners. The results are shown in Table 5 below.

Table 5

Correlation between Turkish EFL Learners' Procrastination and Their Self-esteem

		Procrastination	Self-Esteem
Procrastination	Pearson Correlation	1	-.210**
	Sig. (2-tailed)		.003
	N	202	

*Correlation is significant at the 0.05 level (2-tailed).

The Pearson product-moment correlation coefficient computed to assess the relationship between academic Turkish EFL learners' procrastination, and their self-esteem is shown in Table 5. There was a negative correlation between the two variables [$r=-.210$, $n=202$, $p=.003$], indicating that academic procrastination was statistically significant, but there was a weak negative relationship with self-esteem (a negative correlation was obtained: $r=-.210$, $p<.003$).

3.3. What is the relationship between academic procrastination and self-efficacy for Turkish EFL learners?

Pearson correlation was used to determine the relationship between academic procrastination and self-esteem among Turkish EFL learners. The results are presented in Table 6 below.

Table 6

Correlation between Academic Procrastination and Self-efficacy among Turkish EFL Learners

		Procrastination	Self-Efficacy
Procrastination	Pearson Correlation	1	-.178*
	Sig. (2-tailed)		.011
	N	202	

Table 6 indicates that there was a negative correlation between the two variables [$r=-.178$, $n=202$, $p=.011$]. It also states that academic procrastination was statistically significant, but there was a weak negative correlation exists with self-efficacy (a negative correlation was obtained ($r =-.178$, $p<.011$) for the fourth research question.

3.4. What is the relationship between academic procrastination and self-regulation of Turkish EFL learners?

The Pearson correlation was used to examine the relationship between academic procrastination and self-esteem among Turkish EFL learners. The results are presented in Table 9 below.

Table 7

Correlation between Academic Procrastination and Self-regulation among Turkish EFL Learners

		Procrastination	Self-Regulation
Procrastination	Pearson Correlation	1	-.342**
	Sig. (2-tailed)		.000
	N	202	

*Correlation is significant at the 0.05 level (2-tailed).

Table 9 shows that there was a negative correlation between the two variables [$r = -.342$, $n = 202$, $p = .000$]. It demonstrates that academic procrastination was statistically significant, but there was a moderate negative correlation with self-regulation (a negative correlation was obtained: $r = -.342$, $p < .000$).

4. Discussion and Conclusion

The average level of academic procrastination recorded by Turkish EFL learners was 62.75%, which was consistent with many previous studies. However, the percentage was also slightly different. According to a German study, procrastination affects between 16% and 32% of the general adult population (Beutel et al., 2016). Schouwenburg and Lay (1995) reported that more than 70% of undergraduate students procrastinated on their academic tasks. Other research studies have found that more than half of students regularly postponed their academic tasks (Day, Mensink, & O'Sullivan, 2000). The current study was in accordance with one of the results of Solomon and Rothblum (1984), who discovered that about one-half of the participants (342 American university students) reported "moderate" procrastination. This finding, however, contradicts the findings of numerous studies in which students were reported to have a high level of academic procrastination (Al-Zoubi, 2017; Onwuegbuzie, 2004; Hussain & Sultan, 2010).

Self-esteem, which refers to a person's global sense of self-worth, is another concept commonly associated with procrastination (Bandura, 1997). There has been a lot of interest in the relationship between self-esteem and procrastination, and these studies were in accordance with the current research. There was a significant inverse relationship between procrastination and self-esteem in these studies (Beck, Koons & Milgrim, 2000; Ferrari & Tice, 2000; Shi, Wang, Liu, Zhang, Chen & Cai, 2019; Solomon & Rothblum, 1984; Li, Gao & Xu, 2020; Wu & Fan, 2017). Some researchers suggested that low self-esteem is linked to procrastination as it leads to task initiation or even task completion (Ferrari, 1994; Steel, 2007). Other studies have found that self-esteem has a direct effect on academic procrastination (Batoool, Khursheed & Jahangir, 2007; Kınık & Odacı, 2020).

The fourth research question's findings were consistent with the findings of many other researchers who discovered a negative correlation between self-efficacy and academic procrastination (Clark & Hill, 1994; Klassen et al., 2008; Hen & Goroshit, 2014; Corkin, Shirley, Wolters & Wiesner, 2014; Saracaloğlu & Gökdaş, 2016; Wu & Fan, 2017; Zusya & Akmal, 2016). Tuckman (1991) demonstrated a negative relationship between self-efficacy

and procrastination among college students. Some researchers have observed that when self-efficacy is low, students may avoid initiating or completing tasks because low self-efficacy has been linked to procrastination, while high self-efficacy motivates students to initiate and complete tasks when there are numerous challenges (Chun & Choi, 2005). Other researchers revealed that procrastination has a strong direction and an inverse relationship with self-efficacy (Chow, 2011; Steel, 2007).

Procrastination has been linked to a lack of general behavioral regulation. That is, procrastinators are typically disorganized and have poor time-management skills (Howell & Watson, 2007; Lay & Schouwenburg, 1993; Steel, 2007). The current study's findings are in line with those of Klassen et al. (2008) that the correlation between the two variables procrastination and self-regulation was negative (Klassen et al., 2008). Similar findings were found in other studies (Amani & Arbabi, 2020; Ferrari, 2001; Hong, Hwang, Kuo & Hsu, 2015; Motie, Heidari & Sadeghi, 2012; Senécal, Koestner & Vallerand, 1995; Steel, 2007; Wolters, 2003). The present study confirmed previous findings that procrastination is associated with low self-regulation (Steel & Klingsieck, 2016). Howell and Buro (2009) found that mastery-avoidance goal orientation mediates a positive correlation between an entity view of ability and procrastination, implying that procrastination is motivated by self-preservation. Several studies have found a clear relationship between self-handicapping and procrastination (Ferrari, 1991; Steel, 2007; Van Eerde, 2003). Despite previous research indicating that procrastination is related to a failure of self-regulation, only a few studies examined the relationship between procrastination and the self-regulation models (Howell & Watson, 2007; Wolters, 2003).

According to some researchers, it is unclear how motivation influences someone's decision to procrastinate (Katz, Eilat & Nevo, 2014). Meanwhile, Kandemir (2014) indicated a negative relationship between motivation and procrastination. Therefore, previous researchers did not investigate the relationships between motivation and self-esteem, self-efficacy, and self-regulation. To fill this literature gap, the current study investigated the correlations between procrastination, and self-esteem, self-efficacy, and self-regulation, since these factors can increase or decrease the level of procrastination.

The findings of the current study have some implications. First of all, it would be beneficial to incorporate awareness-raising activities as well as a specially designed training program emphasizing concepts such as academic procrastination, self-esteem, self-efficacy, and self-regulation into English language teaching programs. Learners could become more aware of the significance of these concepts and develop coping strategies as a result of such training.

The correlation between procrastination and self-regulation observed in the current study suggests that it would be beneficial to explore the processes that influence self-regulation failure. Consequently, students who believe they have control over their learning will manage their efforts and allocate their time wisely in order to procrastinate less. However, self-regulation may not be adequate for every student; accordingly, teachers need to help students develop their self-esteem, especially since procrastination seems to decrease when self-efficacy increases.

For further research, it might be a good idea to apply a causal or experimental research design and investigate the effect of one or more variables to provide further evidence for the same area. A different issue arises from the generalizability. The results can be said to be limited to the sample size used in this study. Therefore, future studies should be conducted with larger samples, more diverse demographics, and participants from different universities.

Ethical Issues

This study is exempt from the current research requirement in Turkey for ethics committee approval that came into force in 2020 since the data of this study were collected in March 2019.

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