Phenomenon , 2022, Vol. 12 (No. 2), pp. 158-187
Phenomenon : Jurnal Pendidikan MIPA
http://phenomenon@walisongo.ac.id

Academic Procrastination, Self-Efficacy, and Task Value of Pre-Service Biology Teacher When Online Learnings

Fuji Astutik[1], Baidi Bukhori[2], Rizqi Rahmatika[3]

[1,2,3]*Universitas Islam Negeri Walisongo Semarang, Ngaliyan, Semarang, 50185*

Abstract

Academic procrastination, frequently linked to low self-efficacy and poor assignment performance, is more likely to occur when learning online. This study aims to reveal the level of academic procrastination, self-efficacy, and assignments by semester, areas of academic procrastination, and reasons for delaying assignments, as well as the relationship between academic procrastination, self-efficacy, and task value. This study uses a quantitative approach through a cross-sectional exploratory study. The sample in this study was semester 1, 3, 5, and 7 students who were taken through a stratified random sampling technique. Utilizing the survey method was the data collection methodology. The level of students is described using frequency distribution descriptive data. To use regression analysis to explain the connection between academic procrastination, self-efficacy, and task value. The reasons for procrastination were analyzed qualitatively. According to the findings, pre-service biology teachers who participated in online learning exhibited moderate levels of academic procrastination (37.8%), self-efficacy (39.1%), and task value (29.9%). More than half of the pre-service biology teachers polled stated they would prefer to postpone doing summaries of four pages of foreign language homework over twelve pages of Indonesian homework. Compared to creating a summary of the subject, more than half of biology education students said they would rather put off making a mind map. Reasons for postponing assignments varied among students. Furthermore, in academic procrastination, there is a negative simultaneous association between self-efficacy and task value.

Keywords: Academic procrastination, Procrastination area, Self-efficacy.

Prokrastinasi Akademik, Self-Efficacy, dan Task Value Calon Guru Biologi Ketika Pembelajaran Daring

Abstrak

Prokrastinasi akademik, sering dikaitkan dengan rendahnya *self-efficacy* dan *task value*, dan lebih mungkin terjadi saat pembelajaran *online*. Penelitian ini bertujuan untuk mengungkap level prokrastinasi akademik, *self-efficacy*, dan *task value*; perbandingan prokrastinasi pada tugas-tugas, dan alasan prokrastinasi; serta hubungan antara prokrastinasi akademik, *self-efficacy*, dan

Universitas Islam Negeri Walisongo
Email: fujiastutik@walisongo.ac.id

ISSN: 2088-7868, e-ISSN 2502–5708

task value. Penelitian ini menggunakan pendekatan kuantitatif melalui studi eksplorasi *cross-sectional*. Sampel dalam penelitian ini adalah mahasiswa semester 1, 3, 5, dan 7 yang diambil melalui teknik *stratified random sampling* dengan metode survei untuk mengumpulkan data. Level variabel penelitian dijelaskan dengan menggunakan persentase deskriptif. Analisis regresi untuk menjelaskan hubungan antara prokrastinasi akademik, *self-efficacy*, dan *task value*. Alasan prokrastinasi dianalisis secara kualitatif. Hasil penelitian menunjukkan bahwa calon guru biologi yang berpartisipasi dalam pembelajaran *online* menunjukkan tingkat prokrastinasi akademik (37.8%), *self-efficacy* (39.1%), dan *task value* (29.9%) yang sedang (moderat). Lebih dari separuh calon guru biologi menyatakan mereka lebih suka menunda mengerjakan rangkuman empat halaman tugas bahasa asing daripada dua belas halaman tugas bahasa Indonesia. Dibandingkan dengan membuat rangkuman mata pelajaran, lebih dari separuh mahasiswa pendidikan biologi mengatakan mereka lebih suka menunda membuat peta pikiran. Alasan penundaan tugas cukup bervariasi diantara mahasiswa. Selanjutnya, dalam prokrastinasi akademik, ada hubungan negatif simultan antara *self-efficacy* dan *task value*.

Kata kunci: Prokrastinasi akademik, Self-efficacy, Task value.

INTRODUCTION

Learning outcomes in higher education are the requirements that indicate what a students should know and be able to do after successfully completing the course or program. It can also be viewed as the goal of the learning experience in terms of gaining the necessary abilities and information. The curriculum includes them. Students must be given specific experiences and their attainment must be evaluated in order for learning outcomes to be met. Implementation is disregarded for a program with unstated learning objectives and results that are not examined or assessed. Therefore, the program's evaluation procedure must include all of the stated learning outcomes. The results of student assessments show where learning has taken place and where it needs to be improved. Basically, students must show their best performance in academic to achieve learning outcomes.

Academic performance/achievement is the degree to which a student, instructor, or institution has met their immediate or long-term educational objectives and is assessed continuously or using the cumulative grade point average (GPA) (Talib & Sansgiry, 2012). Students who perform well in school earn more money, have better work advantages, and have more prospects for career growth (Tentama & Abdillah, 2019). Additionally, academically successful students exhibit greater growth mindset, academic

mindset, learning processes, learning strategies, affective learning skills, social learning skills, and productive academic behaviors (Apple et al., 2016). An increasing proportion of students are still failing to graduate on time, which suggests that they had academic performance issues (Razak et al., 2019). The best academic performance can be done one of them by doing the task optimally, giving the best effort, and on time. However, pre-research results show that students who are late in submitting assignments have unsatisfactory score. A low score on the task indicates that learning outcomes have not been achieved optimally. Goroshit (2018) and Vossensteyn et al. (2015) also stated that many students fail academically. Being late in submitting assignments is synonymous with academic procrastination.

Academic procrastination is frequently linked to academic failure. Onwuegbuzie (2004) estimates that 40% to 60% of students always or regularly put off reading their weekly assignments, completing papers, and preparing for tests. The percentage of college students that procrastinate has increased to 25%, according to Ghazal (2012). Researchers Balkis & Duru (2009) and Özer et al. (2009) discovered that procrastination was a problem for 23-52% of students. A meta-analysis reveals that 80–95%, or at least 50%, of college students, procrastinate (Kim & Seo, 2015). According to Steel's research from 2007, more than 80% of college students procrastinate, with 50% of them doing so regularly. Procrastination in online learning needs special consideration due to changes in technology and the learning environment (You, 2015).

Technology use and internet access are inextricably linked to online learning. Different "temptations" like playing games on mobile devices (Nordby et al., 2019), sending texts (Steel, 2007), using social media (Meier et al., 2016; Muslikah et al., 2018), and the propensity to open multiple "tabs" simultaneously while learning online all increase the likelihood of procrastination. Due to its amusing and online applications (Thatcher et al., 2008), internet addiction is a significant diversion (Nwosu et al., 2020).

According to Sepehrian (2012), academic procrastination includes delaying starting or finishing work on time as well as delaying exam preparation (Beck et al., 2000). Academic procrastination is defined as a persistent inability to turn in academic tasks by the due date (Wolters, 2003). A procrastinator likes to work on other things instead of finishing the assignment (Klingsieck, 2013). They typically prefer to spend their time doing other things, such as watching TV or looking for fun or excitement

(Akinsola et al., 2007). According to Noran (2000), who supports this claim, people would rather engage in leisure activities like watching movies or hanging out with friends than perform tasks that must be completed.

A person who procrastinates is aware of the losses that would result (Steel, 2007). They are aware of what has to be done and how to accomplish it, yet they nevertheless fail to take action (Popoola, 2005) because they have a propensity to put off doing it (He, 2017; Gustavson & Miyake, 2017; Schraw et al., 2007). Students fail as a result of their procrastinating behavior since they are unable to function at their highest level during the learning process (Kandemir, 2014).

According to Zeenath & Orcullo (2012), academic procrastination among students was influenced by their traits as well as other elements like the lecturers' teaching style, issues with time management, a lack of enthusiasm, and peer pressure. According to Abu and Saral (2016), there are several reasons why students procrastinate, including the fact that they find academic assignments boring, fear failing, want to avoid becoming tired, prefer engaging hobbies, and prefer social settings to physical ones. According to McGhie (2012), poor time management and planning can lead to procrastination, late or incomplete assignment submissions, and failure to satisfy exam criteria. Another factor cited as a cause of procrastination is perfectionism (Çapan, 2010; Rice et al., 2012).

Academic procrastination is frequently linked to task importance and self-efficacy. Self-efficacy is the conviction in one's capacity to organize and carry out a set of actions to achieve a certain goal as well as one's capacity to learn or do an assignment (Kitsantas & Zimmerman, 2009). One definition of self-efficacy is a person's confidence in his or her capacity for success (Bandura, 2006). Self-efficacy is the capacity to understand one's thoughts, feelings, and behavior (AlQudah et al., 2014).

Confident people will be able to view difficult tasks as opportunities and will be secure in their capacity to complete them. Unlike suspicious people, they do not embark on challenging tasks. They are unmotivated to finish work because they view difficult jobs as dangerous. Strong academic self-efficacy is the belief that one can successfully manage one's education, perform well on tests, and enjoy studying. Students who lack self-efficacy are much more likely to struggle academically (Elias, 2008). Academic self-efficacy is a factor that impacts students' ability to complete academic assignments and achieve their goals (Baird et al., 2009).

Studying the task value of significant academic assignments is crucial regarding academic procrastination (Dietz et al., 2007). Studying the task value of significant academic assignments is crucial regarding academic procrastination (Senécal et al., 2003). Procrastinators typically lack motivation and see the importance of their academic work as being lower than non-procrastinators (Pintrich, 2000; Schraw et al., 2007; Steel, 2007).

Some students may frequently turn in homework just before the deadline, according to lecturers. Even a deadline extension was requested. Others start learning just a few days or weeks before the exam, although some students have a tendency to study continuously and methodically over time. Based on observations and results from discussions with both instructors and students, it is clear that students often put off doing tasks to meet the deadline, which affects the low grade they receive for their assignments.

Procrastinating students generate tasks of poor quality or submit them late, which is stressful. Individuals who procrastinate frequently miss deadlines for completing assignments, put off studying for tests and exams, and end up getting bad grades (Beswick et al., 1988). Other negative effects of procrastination include poor academic performance, diminished self-esteem, and higher emotions of frustration and worry, for both the perpetrator and for others they are related to (Klingsieck, 2013). According to Day et al., (2000), starting assignments late is the main reason for low academic accomplishment. Planning errors may be a contributing factor in someone delaying beginning an academic assignment. The propensity to overestimate how long a task will take to complete is known as a planning mistake (Buehler et al., 2010).

Research conducted by Cerino (2014) measured the same 2 variables, academic procrastination and self-efficacy. The difference is in 1 variable, namely academic motivation, while another variable in this study is the value of assignments. Another difference is that the discussion of the research does not describe Education. Yilmaz (2017) measured the academic procrastination variable, while the other 2 variables were different. The purpose of this research is to find a relationship between procrastination and task and exam performance (procrastination as a predictor) in online and offline learning, while the research to be conducted examines the relationship between self-efficacy and task scores and procrastination. Research by Silva et al. (2020) examines academic procrastination and self-efficacy. This research focuses on the type of

procrastination, while this study discusses procrastination in general without making a determination of the type of procrastination. Mostafa's (2018) research examines academic procrastination and self-efficacy. Both of these variables act as predictors for academic achievement. Participants were all female first-year students at 3 secondary schools with learning difficulties attributes. Whereas in this study the variables that act as predictors are self-efficacy and task value. Participants are students in semesters 1, 3, 5, and 7 in the Biology Education study program. In the end, this study reveals reasons for procrastinating assignments, which did not exist in previous studies.

Procrastination is a behavior in which a task is purposefully delayed while being aware of the repercussions (Steel, 2007). Procrastination is a manifestation of a person's failure to define priorities or goals, which can make it difficult to complete things on time or cause them to be completed after the designated deadline. Some students or groups of students may frequently be discovered by lecturers and teachers to submit homework only before the due date. They even requested a deadline extension. While some students start studying just a few days or weeks before the exam, others study methodically and consistently over a longer time. According to the findings of observations and conversations with lecturers and students, it is evident that students frequently put off doing tasks to meet the deadline, which negatively affects the grades they receive for their assignments. It is rare for research on self-efficacy, task value, and procrastination among academics of biology education students who are involved in online learning related to level, as well as the area of student academic procrastination. This study will also reveal the relationship between academic procrastination, self-efficacy, and task value and the reasons why students procrastinate on certain types of assignments so that lecturers and study programs can provide suggestions for the type of tasks they like and can accommodate student competencies.

RESEARCH METHODS

Through a cross-sectional exploratory investigation incorporating comparative and correlational analysis, this study takes a quantitative approach. Students enrolled in a biology education program took part in this study. The students in this study were from the first, third, fifth, and seventh semesters, totaling 381 students. The method employed was stratified random sampling. The survey approach served as the data collection methodology. Participants' information will be kept private, and their participation will

have no negative effects. Participants were given questions to complete online, and the total time to complete all of them was less than 30 minutes.

Before being utilized to collect data, the instrument must meet valid and reliable. The data collection instrument utilized in this study was made up of four independent survey instruments, each of which was subjected to validity and reliability assessments. Data for validity and reliability tests were obtained from samples, not research subjects. The validity test was performed using SPSS software and the Pearson bivariate correlation technique, whereas the reliability test is performed by examining Cronbach's alpha (α).

Tuckman's (1991) procrastination academic scale was used in this study, and it was translated into Indonesian. There were 16 statements in total, with 12 favorable and four adverse statements. A four-point Likert scale has four levels: very appropriate, appropriate, not appropriate, and very inappropriate. The statement items for measuring student academic procrastination are entirely valid.

Bashir (2019) designed the academic self-efficacy scale that was employed in this study. The scale, which comprises four aspects: self-confidence, efficacy expectation, positive attitude, and outcome expectation, was adapted into Indonesian and includes 16 favorite items and four negative items. Strong agree, agree, neutral, disagree, and strongly disagree are the alternatives on the 5-point Likert scale. The statement items for measuring student self-efficacy are valid except for item number 12.

This study's task value scale is a 47-statement questionnaire derived from Pintrich et al. (1991) and Hagemeier & Murawski (2014) and translated into Indonesian. Other statement items were changed for the four dimensions of task value: intrinsic value (pleasure or liking), utility value (usefulness of activities in accomplishing personal goals), accomplishment value (relevance of tasks to personal attitudes, identity, and core values), and cost perception. The research used a total of 39 positive and 8 negative statements. Strong agree, agree, neutral, disagree, and strongly disagree are the options on the five-point Likert scale. The statement items for measuring student task value are valid except for item number 5, 8, 37, 42, and 46. All of the valid statement items are then tested for reliability. Table 1 shows the various interpretations of Cronbach's alpha.

Table 1 Interpretation of Cronbach's Alpha (α)

Cronbach's Alpha	Interpretation
$\alpha \geq 0.9$	excellent
$0.8 \leq \alpha < 0.9$	good
$0.7 \leq \alpha < 0.8$	acceptable
$0.6 \leq \alpha < 0.7$	questionable
$0.5 \leq \alpha < 0.6$	poor
$\alpha < 0.5$	unacceptable

(George & Mallery, 2019)

The results of the reliability test for academic procrastination, self-efficacy, and task value respectively were 0.778 (acceptable), 0.881 (good), and 0.922 (excellent), which means that the scale can produce consistent results if the instrument is used repeatedly. So that the total items used in this study were 77 items, with details of 16 items to measure academic procrastination, 19 items to measure self-efficacy, and 42 items to measure student task value.

Academic procrastination, self-efficacy, task value, and academic procrastination area were all described using frequency distribution descriptive statistics. The relationship between academic procrastination, self-efficacy, and task value of pre-service biology teacher students during online learning was described using regression analysis with SPSS Qualitative data about the reasons for academic procrastination were analyzed using the model proposed by Schutt and Chambliss (2013). The categorization of levels is seen based on the following criteria in table 2.

Table 2 Criteria Level Categorization

Criteria	Level
$M + 1.5\ SD < X$	very high
$M + 0.5\ SD < X \leq M + 1.5\ SD$	high
$M - 0.5\ SD < X \leq M + 0.5\ SD$	medium
$M - 1.5\ SD < X \leq M - 0.5\ SD$	low
$X \leq M - 1{,}5\ SD$	very low

RESULTS AND DISCUSSION

Demographics of Respondents

The demographics of respondents can be identified based on gender, age, domicile, and semester level. Each of these characteristics can be analyzed univariately as presented in Table 3:

Table 3 Demographics of Respondents

Charactistics	Category	N	Percentage (%)
Gender	Male	49	12.9
	Female	332	87.1
Age (years)	17	31	8.1
	18	129	33.9
	19	85	22.3
	20	77	20.2
	21	55	14.4
	22	4	1.0
Domicile	Urban	73	19.2
	Rural	308	80.8
Semester	1st Semester	169	44.4
	3rd Semester	85	22.3
	5th Semester	72	18.9
	7th Semester	55	14.4

Table 3 shows that the number of female respondents is greater than that of male respondents. Respondents' ages ranged from 17-22 years, the number of respondents from rural areas was 308 subjects, which was greater than respondents from urban areas, who were 73 subjects. Respondents consisted of students in semesters 1, 3, 5 and 7. One of the objectives of this study was to investigate students' levels of academic procrastination. The level of academic procrastination is divided into 5 categories, namely very low, low, moderate, high, and very high. Descriptively the level of procrastination is presented in Table 4 as follows.

Table 4 Level of Academic Procrastination

Characteristic	Procrastination Level					Total
	Very Low	Low	Medium	High	Very High	
Semester						
1st Semester	13 (7.7%)	36 (21.3%)	65 (38.5%)	46 (27.2%)	9 (5.3%)	169 (100.0%)
3rd Semester	8 (9.4%)	18 (21.2%)	29 (34.1%)	27 (31.8%)	3 (3.5%)	85 (100.0%)
5th Semester	6 (8.3%)	12 (16.7%)	27 (27.5%)	24 (33.3%)	3 (4.2%)	72 (100.0%)
7th Semester	3 (5.5%)	10 (18.2%)	23 (41.8%)	17 (30.9%)	2 (3.6%)	55 (100.0%)
Gender						
Male	2 (4.1%)	13 (26.5%)	22 (44.9%)	10 (20.4%)	2 (4.1%)	49 (100.0%)
Female	28 (8.4%)	63 (19.0%)	122 (36.7%)	104 (31.3%)	15 (4.5%)	332 (100.0%)
Domicile						
Urban	10 (13.7%)	11 (15.1%)	29 (39.7%)	21 (28.8%)	2 (2.7%)	73 (100.0%)
Rural	20 (6.5%)	65 (21.1%)	115 (37.3%)	93 (20.2%)	15 (4.9%)	308 (100.0%)
Total	30 (7.9%)	76 (19.9%)	144 (37.8%)	114 (29.9%)	17 (4.5%)	381 (100.0%)

Based on Table 4 above, the results showed that 30 students were stated to have a very low level of procrastination, 76 students in the low, 144 students in the medium, 114 students in the high, and 17 students in the very high category. Students with moderate procrastination levels dominate 7th semester, 5th semester, 3rd semester, and 1st semester students. Likewise, the level of procrastination based on gender, both male and female students were equally dominated by students with moderate procrastination levels. This finding implies that all students procrastinate in their academic lives. The tendency to academic procrastination is present in individuals but not with severe intensity. Several other studies with moderate levels of procrastination found similar results (Klassen & Kuzucu, 2009); Bakar & Khan, 2016; Bukhori & Darmu'in, 2019). In this sense, procrastination can be viewed as an annoyance that every university student must deal with during his studies. Interestingly, several other studies have found that students' procrastination tendencies are higher (Ferrari et al., 2005; Ferrari et al., 2007). It seems that procrastination levels vary in different studies.

Each individual tends to procrastinate to a certain degree and moderate levels of procrastination can be considered normal [Schouwenburg (2004) in Wazid et al. (2016)]. Academic procrastination is found to be a common problem among students, according to several studies (Wolters, 2003). A large body of research has found a link between procrastination and poor academic performance (Akinsola et al., 2007; Wang & Englander, 2010). Furthermore, procrastination has been linked to poor academic performance, which includes poor study habits, exam anxiety, studying only for examinations, late assignment submission, fear of failing, lower grades, guilt, stress, depression, and poor time management (Özer et al., 2009; Sub & Prabha, 2003; Sharma & Kaur, 2011). There is evidence, however, that some students use procrastination as a coping strategy to enable them to deal with various responsibilities (Sokolowska & Zusho, 2006) or to compensate for negative feelings evoked by deadlines to make individuals feel better, at least temporarily (Tice & Baumeister, 1997). Freeman et al. (2011) found that extroverted individuals procrastinate as a form of sensation-seeking that encourages them to complete tasks well.

The causes of academic procrastination have been linked to motivational problems (Senécal et al., 1995). Wang et al. (2013) found the motivation to pursue

success, self-efficacy, motivation to avoid failure, and orientation to avoid ego involvement to be the four most significant variables for predicting academic procrastination. Chow (2011) discovered a negative relationship between self-efficacy and procrastination, which is consistent with the findings of Ferrari et al. (1992) and Seo (2008). Chow (2011) points out that another reason someone delays starting an academic assignment could be a lack of confidence in a particular task or domain. Students who express dissatisfaction with university academic life seem to be more likely to postpone (Chow, 2011). This could be attributed to a lack of interest and motivation in their studies.

The explanation regarding the level of academic procrastination can also be seen from the point of view of self-regulated learning, which states that academic procrastination is considered due to a lack of self-regulation, which has a detrimental effect on academic performance (Grunschel et al., 2018). Students can regulate themselves so that they will be metacognitively more conscious of their academic tasks, making procrastination less awful (Purdie et al., 1996). Personal accomplishments are frequently laudable and beneficial (and sometimes critical) to all members of the family in collectivistic societies, which may also lead an individual not only to complete academic assignments but also raise serious concerns about failings, causing them to appear to procrastinate however stop before reaching extreme severity (Hofstede, 2001 in Bakar & Khan, 2016). For students who have difficulty in overcoming these behaviors, they should ask for help from others, as in a study conducted by Grunschel et al. (2018), which developed training through an independent learning cycle, showing that efforts to encourage the process of self-regulation are considered successful in reducing academic procrastination because if this is not considered properly it will endanger their mental health and academic achievement.

Based on the discussion that has been carried out, academic advisors, educators, and also counselors need to help students who seem to be susceptible to procrastination. Intervention programs to reduce academic procrastination can be designed to help students. Because the current research results are constrained by the cross-sectional study design, future studies should consider other model parameters such as learning approach, perfectionism, personality, and achievement goals.

The prevalence of student academic procrastination is also one of the objectives of this study. There are 7 types of tasks used to identify areas or prevalence of student

procrastination, namely writing group papers, studying for exams, completing reading assignments, individual assignments to compose a resume, answering questions, compiling Q&A (Question and Answer) assignments, and collecting assignments.

Data on the frequency of procrastination for various academic assignments revealed that 12.4% of students reported that they almost always and or always procrastinated completing reading assignments, 4.5% delayed completing individual assignments in compiling resumes or material summaries, and 3.9% procrastinated in a study for exams and submit assignments. At a lower level, students procrastinate in compiling Q&A assignments (3.7%), answering questions (2.7%); and writing group papers (2%). This percentage is obtained by adding up each percentage on a always and almost always scale in "A" statement.

In terms of how much procrastination was still a problem among students, 20.2 percent said it was quite always or already a problem while preparing for the exam (study for the test), 19.7% said completing reading assignments was almost always or always a problem, and 16.2% said this is a problem when writing group papers. The remaining 15.4%, 14.7%, and 13.1% respectively stated that the task of answering questions and submitting assignments, the individual task of compiling a resume or summary of materials, and the task of compiling QnA were a problem for them. This percentage is obtained by adding up each percentage on a always and almost always scale in "B" statement.

Regarding the degree to which students reported wanting to reduce their tendency to procrastinate when it came to studying for exams, 69% said they wished or strongly desired to reduce procrastination. Meanwhile, 68.5% wanted to reduce when writing group papers and completing reading assignments, and 64.8% want to reduce when compiling a resume or summary material as an individual task. The remaining 64.6%, 64.3%, and 61.4%, respectively, stated that they wanted to reduce their procrastinating behavior. This percentage is obtained by adding up each percentage on a always and almost always scale in "C" statement. The full distribution of academic procrastination areas is presented in Table 5 below.

Table 5 Areas of Academic Procrastination

	Never	Rarely	Sometimes	Almost Always	Always
Writing Group Papers					
A	30 (7.9%)	112 (29.4%)	231 (60.6%)	4 (1.0%)	4 (1.0%)
B	29 (7.6%)	87 (22.8%)	203 (53.3%)	42 (11.0%)	20 (5.2%)

	Never	Rarely	Sometimes	Almost Always	Always
C	15 (3.9%)	31 (8.1%)	74 (19.4%)	73 (19.2%)	188 (49.3%)
					Average = 3.144 (Medium)
Study for the Test					
A	48 (12.6%)	98 (25.7%)	220 (57.7%)	13 (3.4%)	2 (0.5%)
B	30 (7.9%)	95 (24.9%)	179 (47.0%)	53 (13.9%)	24 (6.3%)
C	15 (3.9%)	36 (9.4%)	67 (17.6%)	72 (18.9%)	191 (50.1%)
					Average = 3.137 (Medium)
Completing Reading Assignments					
A	30 (7.9%)	111 (29.1%)	193 (50.7%)	46 (12.1%)	1 (0.3%)
B	31 (8.1%)	87 (22.8%)	188 (49.3%)	54 (14.2%)	21 (5.5%)
C	12 (3.1%)	39 (10.2%)	69 (18.1%)	74 (19.4%)	187 (49.1%)
					Average = 3.183 (Medium)
Individual Tasks: Compiling a Resume/Material Summary					
A	63 (16.5%)	159 (41.7%)	142 (37.3%)	14 (3.7%)	3 (0.8%)
B	46 (12.1%)	121 (31.8%)	158 (41.5%)	33 (8.7%)	23 (6.0%)
C	18 (4.7%)	53 (13.9%)	63 (16.5%)	59 (15.5%)	188 (49.3%)
					Average = 2.953 (Medium)
Question Answering Tasks					
A	61 (16.0%)	134 (35.2%)	176 (46.2%)	9 (2.4%)	1 (0.3%)
B	32 (8.4%)	104 (27.3%)	186 (48.8%)	44 (11.5%)	15 (3.9%)
C	15 (3.9%)	50 (13.1%)	71 (18.6%)	72 (18.9%)	173 (45.4%)
					Average = 2.999 (Medium)
Assignment of Compiling QnA					
A	51 (13.4%)	138 (36.2%)	178 (46.7%)	13 (3.4%)	1 (0.3%)
B	36 (9.4%)	101 (26.5%)	194 (50.9%)	34 (8.9%)	16 (4.2%)
C	14 (3.7%)	46 (12.1%)	87 (22.8%)	68 (17.8%)	166 (43.6%)
					Average = 2.995 (Medium)
Collect (submit) Assignments					
A	83 (21.8%)	152 (39.9%)	131 (34.4%)	15 (3.9%)	0 (0.0%)
B	55 (14.4%)	123 (32.3%)	144 (37.8%)	39 (10.2%)	20 (5.2%)
C	23 (6.0%)	49 (12.9%)	63 (16.5%)	51 (13.4%)	195 (51.2%)
					Average = 2.903 (Medium)

Description:
A: To what extent have you procrastinated on this task?
B: To what extent has procrastination on this assignment been a problem for you?
C: To what extent would you like to reduce your tendency to procrastinate on this task?

The high frequency of reported delays in reading assignments, completing individual assignments in compiling resumes or material summaries, and studying for exams and submitting assignments, suggests that students regard these tasks as the most important and that they may be the most important assignments. which has the greatest effect on the value of the academic achievement index. Ozer (2011) also looked at the prevalence of procrastination in three academic tasks, namely; writing papers, studying for exams and reading weekly assignments. The results show that students procrastinate more while studying for exams. Meanwhile, Solomon & Rothblum (1984) found that students procrastinate more when writing papers (46%) than when having to read weekly assignments (30%) or studying for tests (28%).

Everyone has a mission to complete, but for various reasons, this duty is

frequently postponed. Procrastination is the term for the overall inclination to procrastinate in this manner. Students have tasks such as preparing papers, studying for tests, reading weekly assignments in their academic environment, submitting assignments, and/or academic activities in general. Research has consistently shown that procrastination is indeed one of the greatest dangers to student academic achievement, and most of the existing literature focuses on student procrastination.

As many as 65.6% of biology education students stated that they prefer to delay doing summarizing assignments from 4 foreign language pages compared to 12 pages of Indonesian assignments. A total of 55.4% of biology education students stated that they prefer to postpone doing the task of compiling a mind map compared to compiling a summary of the material. Students stated various reasons related to the tendency to choose which one to work on first, working on a 12 pages Indonesian or 4 English pages resume. Most stated that they find it difficult to understand the material in English, thus delaying English resume assignments, and chose to resume material in Indonesian even though the number of pages was 3 times. The different reasons stated are then categorized, reduced, and tabulated as shown in Table 6.

Table 6 Reasons for Delay in Completing Resume Assignments from Different Learning Sources

Code	Reasons	Frequency	Percentage (%)
A	Difficulty understanding material in English, thus delaying English resume assignments	157	41.2
B	Prioritize doing what is considered easy first (Indonesian), thus delaying assignments in English	107	28.1
C	Prioritizing to do the more concise work first, thus delaying the task in Indonesian	61	16.0
D	Prioritizing work that is considered more difficult (English), thus delaying assignments in Indonesian	36	9.4
E	Prioritizing doing more work, namely Indonesian, which takes a long time, thus delaying assignments in English	12	3.1
F	Prioritize doing what is considered easy first (English), thus delaying assignments in Indonesian	8	2.1
	Total	381	100

Meanwhile, related to the tendency to choose which task to do first, to work on a resume or mind map, most of the students stated that they are delaying the creation of a mind map because they believe it requires more procedures. The various reasons given are then coded, reduced, and tabulated as presented in Table 7 below.

Table 7 Reasons for Delay in Completing Resume or Mind map Tasks

Code	Reasons	Frequency	Percentage (%)
A	Postponing making mind maps because they feel that they need more techniques for the process	110	28.9
B	Prioritizing work that is considered more concise (mind map), thus delaying resuming tasks	84	22.0
C	Prioritizing to do tasks that are considered easier (resume), thus delaying making a mind map	70	18.4
D	Prioritize doing tasks that are considered easier (mind map), thus delaying making a resume	68	17.8
E	Prioritizing to do tasks that are considered to take longer (resume), thus delaying making a mind map	33	8.7
F	Prioritizing working on tasks that are considered more difficult first (mind map), thus delaying working on a resume	8	2.1
G	Prioritizing working on assignments is considered to take longer (mind map), thus delaying making a resume	7	1.8
H	Prioritizing working on tasks that are considered more difficult first (resume), thus delaying making a mind map	1	0.3
	Total	381	100

The level of self-efficacy is divided into 5 categories, namely very low, low, moderate, high, and very high. According to the findings, 25 students have a very low level, 84 students have a low level, 149 students have a medium level, 97 students have a high level, and 26 students have a very high level of self-efficacy. On a semester-by-semester basis, it has been shown that students in semesters 1, 3, 5, and 7 are all dominated by students who have moderate levels of self-efficacy. Likewise, the level of procrastination based on gender, both male and female students were equally dominated by students with moderate levels of self-efficacy. The degree of self-efficacy is described in Table 8 in the following way.

Table 8 Levels of Self-efficacy

Characteristic	Self Efficacy Level					Total
	Very Low	Low	Medium	High	Very High	
Semester						
1st Semester	10 (5.9%)	37 (21.9%)	68 (40.2%)	43 (25.4%)	11 (6.5%)	169 (100.0%)
3rd Semester	5 (5.9%)	16 (18.8%)	34 (40.0%)	24 (28.2%)	6 (7.1%)	85 (100.0%)
5th Semester	5 (6.9%)	20 (27.8%)	27 (37.5%)	16 (22.2%)	4 (5.6%)	72 (100.0%)
7th Semester	5 (6.9%)	11 (20.0%)	20 (36.4%)	14 (25.5%)	5 (9.1%)	55 (100.0%)
Gender						
Male	5 (10.2%)	14 (28.6%)	19 (38.8%)	8 (16.3%)	3 (6.1%)	49 (100.0%)
Female	20 (6.0%)	70 (21.1%)	130 (39.2%)	89 (26.8%)	23 (6.9%)	332 (100.0%)
Domicile						
Urban	2 (2.7%)	17 (23.3%)	32 (43.8%)	19 (26.0%)	3 (4.1%)	73 (100.0%)
Rural	23 (7.5%)	67 (21.8%)	117 (38.0%)	78 (25.3%)	23 (7.5%)	308 (100.0%)

Characteristic	Self Efficacy Level					Total
	Very Low	Low	Medium	High	Very High	
Total	25 (6.6%)	84 (22.0%)	149 (39.1%)	97 (25.%)	26 (6.8%)	381 (100.0%)

Based on these findings, it can be stated that students in biology education have a moderate level of self-efficacy, and their opinion about self-efficacy is generally in the "neutral" answer choice. Gökçek et al. (2013) who conducted a study to see the self-efficacy of primary school teachers also found that their level of self-efficacy was at a moderate level. Nartgün et al. (2019) also found the same thing. This finding is different from the findings of a study conducted by Altunsoy et al. (2010) which stated that the self-efficacy of prospective biology teacher students at a university in Turkey was in the high category.

Self-efficacy can affect a person's motivation, thoughts, behavior, and feelings. This means that the self-efficacy of students will affect decisions and beliefs about personal abilities. A higher degree of self-efficacy can make a positive contribution in determining the learning objectives to be achieved compared to low self-efficacy, which is manifested through the application of learning strategies. The learning strategy is designed to facilitate and enhance learning so that it will lead students to better academic performance.

Students with strong self-efficacy are more likely to not only complete assignments but also to avoid obligations, but more than that, they will try to understand the task well and survive when facing problems related to academic assignments. Students will try to re-read the lecture material, ask questions to the lecturer, discuss with friends, or seek information from other sources. Students with poor self-efficacy, on the other hand, tend to give up when faced with problems and allow them to stop their learning process in understanding the material because they are not confident in their abilities. Low self-efficacy will be a problem for students because they have low confidence in their ability to do something. Low self-efficacy can make students think that the efforts that will be, are being, or have been made are in vain. They will tend to experience the same thing every time they get an academic assignment. It can also be interpreted that students who have a high level of self-efficacy have good efficiency in organizing challenging academic tasks, and try harder to take the best actions in achieving learning goals when compared to those with a low sense of self-efficacy. Students with a high level of self-efficacy will have good self-regulation in the academic field. Students with

poor self-efficacy, on the other hand, will tend to have weak regulation in the academic field. Tschannen-Moran et al. (1998) describe self-efficacy in teachers as the faith that they can achieve the desired learning that has an impact on learning outcomes and student participation even in the most unmotivated students. Soodak & Podell (1996) researched teacher efficacy and stated that teachers' efficacy is related to teachers' beliefs about their capacity to execute particular activities, whereas outcome efficacy relates to teachers' perceptions that the results shown by students are caused by their actions.

Based on the description that has been presented, it could be said that self-efficacy is a huge factor and significant character in the academic life of students. Increased self-efficacy will make a major contribution to their achievement, both in academics and in everyday life, because self-efficacy does have the power to influence human behavior. Students who have a high level of self-efficacy will have a greater awareness of learning, organize their learning activities, and strive to master their academic tasks. Self-efficacy can be regarded as a crucial success component based on this assertion. This becomes a very important part of guiding individuals to achieve their best academic achievements. In conclusion, it is important to develop programs that can increase the self-efficacy of biology education students as teacher candidates. Students' academic self-efficacy can be evaluated at the beginning and end of the semester so that the main lecturer as academic supervisor has a better understanding of student behavior. The results of the evaluation can also be informed to students, and are expected to help prepare them to carry out their duties as teachers in the future.

Self-efficacy is expressed as a combination of independence and belief in oneself. Self-efficacy does not refer to how much they enjoy the task at hand; on the other hand, self-efficacy relates to how well a person believes that they can achieve the desired results (Bandura, 1977). In other words, self-efficacy refers to an individual's belief in his or her ability to complete a particular task. Self-efficacy is a major factor that contributes to academic success. Academic self-efficacy can be defined as a reflection of a person's personal belief in his or her capacity to achieve a task or learning goal at an expected level. Academic self-efficacy which is derived from Bandura's theory of self-efficacy refers to "individuals' beliefs that they can successfully achieve specified targets in terms of academic tasks or achieve certain academic goals (Eccles & Wigfield, 2002; Elias & Loomis, 2002; Linnenbrink & Pintrich, 2002). Academic self-efficacy has been

investigated in various domains. The results of research by Bedel (2015); Husain (2014), and Ates and Saylan (2015) show that there is a significant relationship between academic motivation and academic self-efficacy. The research findings also reveal that academic self-efficacy is a predictor of academic motivation. High self-efficacy predicts one's expectations of completing tasks well and low self-efficacy predicts student expectations of not completing assignments well.

The task value level is divided into 5 categories, namely very low, low, moderate, high, and very high. The results revealed that 23 students had very low levels, 97 students had low levels, 114 students had medium levels, 88 students had high levels, and 29 students had very high task value levels. On a semester-by-semester basis, it can be shown that students in semesters 1, 3, 5, and 7 are all dominated by students with moderate task value levels. Likewise, the level of procrastination based on gender, both male and female students were equally dominated by students with moderate task value levels. Descriptively, the task value level is presented in Table 9 as follows.

Table 9 Levels of Task Value

Characteristic	Task Value Levels					Total
	Very Low	Low	Medium	High	Very High	
Semester						
1st Semester	6 (3.6%)	41 (24.3%)	63 (37.3%)	42 (24.9%)	17 (10.1%)	169 (100.0%)
3rd Semester	6 (7.1%)	17 (20.0%)	38 (44.7%)	17 (20.0%)	7 (8.2%)	85 (100.0%)
5th Semester	7 (9.7%)	22 (30.6%)	21 (29.2%)	20 (27.8%)	2 (2.8%)	72 (100.0%)
7th Semester	4 (7.3%)	17 (30.9%)	22 (40.0%)	9 (16.4%)	3 (5.5%)	55 (100.0%)
Gender						
Male	6 (12.2%)	14 (28.6%)	19 (38.8%)	9 (18.4%)	1 (2.0%)	49 (100.0%)
Female	17 (5.1%)	83 (25.0%)	125 (37.7%)	79 (23.8%)	28 (8.4%)	332 (100.0%)
Domicile						
Urban	8 (11.0%)	18 (24.7%)	26 (35.6%)	17 (23.3%)	4 (5.5%)	73 (100.0%)
Rural	15 (4.9%)	79 (25.6%)	118 (38.3%)	71 (23.1%)	25 (8.1%)	308 (100.0%)
Total	23 (6.0%)	97 (25.5%)	114 (29.9%)	88 (23.1%)	29 (7.6%)	381 (100.0%)

Based on these findings, it can be concluded that the task value of biology education students is generally at a moderate level. These results show a difference from the findings of research conducted by Taura et al. (2015) which states that the task value of prospective teacher students in Nigeria is in the high category.

Eccles and Wigfield (2002) state task value as motivation to engage in a task. That is, individuals' opinions about the worth and importance of a task, in other words, dictate why they participate in it. Task value is defined by Pintrich et al. (1991) as a subjective

assessment of how engaging, significant, and valuable a task is. In the academic realm, for example, interest in assignments connotes personal interest or student preference for the subject matter. Students' perceptions of how valuable the content is to them are referred to as task valuableness. The significance of assignments is determined by students' perceptions of how essential the learning topic is to them and their long-term objectives. Procrastination is very vulnerable to how one perceives the tediousness of academic assignments (Gröpel & Steel, 2008). To put it another way, the more displeasing a task is, the greater the probability of procrastination

The relationship between self-efficacy and task value with academic procrastination can be seen in Tables 10, 11, and 12 below.

Table 10 Test Data Analysis of The Relationship Between Self-efficacy and Task Value with Academic Procrastination

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.411[a]	.169	.165	4.83871

a. Predictors: (Constant), Task_Value, Self_Efficacy

The corrected determination coefficient value obtained is 0.165 which can be interpreted that task value and self-efficacy simultaneously have a contribution of 16.5% to academic procrastination and another 83.5% is influenced by other factors outside task value and self-efficacy.

Table 11 Test of Multiple Regression Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1799.058	2	899.529	38.420	.000[b]
	Residual	8850.159	378	23.413		
	Total	10649.218	380			

a. Dependent Variable: Procrastination

b. Predictors: (Constant), Task_Value, Self_Efficacy

Table 11 demonstrates that the data on the simultaneous effects of self-efficacy and task value on academic procrastination has a significant value of 0.000. Based on this value, it can be inferred that self-efficacy and task value have a simultaneous effect on acceptable academic procrastination. Furthermore, it may be deduced that the higher self-efficacy and task value, the less academic procrastination. Vice versa, academic procrastination is higher when self-efficacy and task value are low.

Table 12 Coefficients Value

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	58.714	2.514		23.355	.000
Self_Efficacy	-.151	.037	-.250	-4.092	.000
Task_Value	-.063	.019	-.204	-3.345	.001

a. Dependent Variable: Procrastination

a = constant number of unstandardized coefficients, the value is 58,714. This number is a constant number which means that if there is no task value (X1) and self-efficacy, the academic procrastination value (Y) is 58.714.
b = number of regression coefficients. The value is -0.151. This figure means that for every 1% addition of self-efficacy, academic procrastination will decrease by 0.151. Meanwhile, the value of -0.063 means that for every 1% addition to the task value, academic procrastination will decrease by 0.063.

In the Unstandardized Coefficients column B, Table 12 shows the regression equation model that was created using constant and variable coefficients. The regression equation model is created using this table as a starting point: Y = 58.714 - 0.151 X1 - 0.063 X2. Because the regression coefficient value is minus (-), academic procrastination (Y) is negatively influenced by self-efficacy (X1) and task value (X2).

Based on the explanation above, it is clear that there is a link between academic procrastination and task value. The findings of this study agree with those of Steel (2007) and Wu and Fan (2017), who found that task value is strongly linked to academic procrastination. The assessment of the task's interest, usefulness, importance, and the cost is known as task value. Research shows that students who score highly on assignments will use deeper cognitive and metacognitive strategies (McWhaw & Abrami, 2001). A good metacognitive strategy can reduce academic procrastination (Taghvaeinei, 2018). Task value is also strongly related to choice, as found by Bong (2001) and Ethington (1991).

Several prior studies have also discovered a negative association between self-efficacy and procrastination (Ferrari et al., 1992; Klassen et al., 2008; Seo, 2008; Tan et al., 2008). Klassen et al. (2008), Klassen et al. (2010), Chow (2011), Rabin et al. (2011), all revealed a substantial association between self-efficacy and academic procrastination. Other research findings indicate that self-efficacy is a significant behavioral construct in

explaining academic procrastination behavior (Hajloo, 2014; AlQudah et al., 2014) and it is stated that a lack of self-efficacy causes procrastination (Tuckman & Sexton, 1992).

According to Haycock et al. (1998), Tuckman (1991), and Wolters (2003), procrastination and self-efficacy have a negative significant relationship. Other research findings show that when students' belief in a target decreases, the tendency to experience procrastination increases (Steel, 2007; Seo, 2008). This idea is confirmed by Mandap (2016) with the results of his research which shows that low self-efficacy students take longer to complete projects than students with strong self-efficacy.

Self-efficacy theory (Bandura, 1997) describes how one's self-confidence or evaluation of one's talents influences one's accomplishment objectives, task selection, and persistence level. Self-efficacy is also a motivator for self-control in terms of avoiding distractions and developing techniques to make task completion better (Klassen et al., 2008). Students who have higher self-efficacy have more faith in their abilities and are better able to channel that confidence into good behaviors and answers to a variety of academic obstacles. Students that are driven to succeed will be more engaged and willing to participate in their studies. Conversely, those who do not have confidence in their competence may show a dislike of academic activities which can lead to the emergence of procrastination initiation in completing tasks (Chow, 2011). People who have a high level of self-efficacy are more likely to succeed than those who have a low level of self-efficacy because belief in one's abilities can affect psychosocial development and function in health, sports, education, business, psychiatry, and international affairs (Bandura, 1997). This demonstrates that individuals who have a high level of self-efficacy are more secure in their capabilities and can respond favorably even though they have difficulty in completing tasks. High self-efficacy will guide students to achieve academic success, become superior individuals, and excel.

CONCLUSION

It can be concluded, based on the study's findings, that the level of academic procrastination, self-efficacy, and task value of pre-service biology teacher students during online learning are in the moderate category. More than half of pre-service biology teacher said they would rather put off completing summarizing assignments from four pages of a foreign language than from twelve pages of Indonesian homework. The

majority admitted that they have trouble understanding English-language content. Compared to creating a summary of the subject, more than half of biology education students said they would rather put off making a mind map. They said they were delaying creating mind maps because they thought the procedure needed more sophisticated techniques. And taking into account the relatively similar percentages, as well as several other factors, it can be advised to the lecturer to select a variety of tasks during the learning to accommodate the various competencies of the students. Furthermore, in academic procrastination, there is a simultaneous association between self-efficacy and task value. Moreover, it may be deduced that the higher self-efficacy and task value, the less academic procrastination. Vice versa, the stronger academic procrastination, the lower the self-efficacy and task value. The findings of this research can also give lecturers, parents, and higher education institutions a clear image of the scope and reasons for this phenomenon, allowing them to create strategies to minimize it.

ACKNOWLEDGMENT

We would like to thank the Indonesian Ministry of Religion as the funder for the 2021 BOPTN research and Institute for Research and Community Service (LP2M) Universitas Islam Negeri (UIN) Walisongo Semarang.

REFERENCE

Abu, N. K., & Saral, D. G. (2016). The Reasons of Academic Procrastination Tendencies of Education Faculty Students. The Online Journal of New Horizons in Education, 6(1), 165–169.

Akinsola, M. K., Tella, A., & Tella, A. (2007). Correlates of Academic Procrastination and Mathematics Achievement of University Undergraduate Students. Eurasia Journal of Mathematics, Science & Technology Education, 3(4), 363–370.

AlQudah, M. F., Alsubhien, A. M., & AL Heilat, M. Q. (2014). The Relationship between the Academic Procrastination and Self-Efficacy among Sample of King Saud University Students. Journal of Education and Practice, 5(16), 101–112.

Altunsoy, S., Çimen, O., Ekici, G., Atik, A. D., & Gökmen, A. (2010). An assessment of the factors that influence biology teacher candidates' levels of academic self-efficacy. Procedia - Social and Behavioral Sciences, 2(2), 2377–2382. https://doi.org/10.1016/j.sbspro.2010.03.340

Apple, D., Duncan, W., & Ellis, W. (2016). Key Learner Characteristics for Academic Success. International Journal of Process Education, 8(2), 61–82.

Ates, H., & Saylan, A. (2015). Investigation of Pre-Service Science Teachers' Academic

Self-Efficacy and Academic Motivation toward Biology. International Journal of Higher Education, 4(3), 90–103. https://doi.org/10.5430/ijhe.v4n3p90

Baird, G. L., Scott, W. D., Dearing, E., & Hamill, S. K. (2009). Cognitive Self-Regulation in Youth With and Without Learning Disabilities: Academic Self-Efficacy, Theories of Intelligence, Learning vs. Performance Goal Preferences, and Effort Attributions. Journal of Social and Clinical Psychology, 28(7), 881–908. https://doi.org/10.1521/jscp.2009.28.7.881

Bakar, Z. A., & Khan, M. U. (2016). Relationships between Self-Efficacy and the Academic Procrastination Behaviour among University Students in Malaysia: A General Perspective. Journal of Education and Learning (EduLearn), 10(3), 265–274. https://doi.org/10.11591/edulearn.v10i3.3990

Balkis, M., & Duru, E. (2009). Prevalence of academic procrastination behavior among pre-service teachers, and its relationship with demographics and individual preferences. Journal of Theory and Practice in Education, 5(1), 18–32.

Bandura, A. (1977). Self-efficacy: Toward a Unifying Theory of Behavioral Change. Psychological Review, 84(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bandura, A. (1997). Self-efficacy: The Exercise of Control. W H Freeman/Times Books/ Henry Holt & Co.

Bandura, A. (2006). Guide for Constructing Self-efficacy Scales. In F. Pajares & T. Urdan (Eds.). Self-Efficacy Beliefs of Adolescents, 5, 307–337.

Bashir, L. (2019). Social Networking Usage, Academic Procrastination and Performance Among University Students: Role of Self Efficacy and Metacognitive Beliefs. In Unpublished PhD (Issue 11512050). Lovely Professional University.

Beck, B. L., Koons, S. R., & Milgrim, D. L. (2000). Correlates and Consequences of Behavioral Procrastination: The Effects of Academic Procrastination, Selfconsciousness, Self-Esteem and Self-Handicapping [Special Issue]. Journal of Social Behavior & Personality, 15(5), 3–13.

Bedel, E. F. (2015). Exploring Academic Motivation, Academic Self-efficacy and Attitudes toward Teaching in Pre-service Early Childhood Education Teachers. Journal of Education and Training Studies, 4(1), 142–149. https://doi.org/10.11114/jets.v4i1.561

Beswick, G., Rothblum, E. D., & Mann, L. (1988). Psychological antecedents of student procrastination. Australian Psychologist, 23(2), 207–217. https://doi.org/10.1080/00050068808255605

Bong, M. (2001). Between- and within-domain relations of academic motivation among middle and high school students: Self-efficacy, task value, and achievement goals. Journal of Educational Psychology, 93(1), 23–34. https://doi.org/10.1037/0022-0663.93.1.23

Buehler, R., Griffin, D., & Peetz, J. (2010). The Planning Fallacy. Advances in Experimental Social Psychology, 43, 1–62. https://doi.org/10.1016/S0065-2601(10)43001-4

Bukhori, B., & Darmu'in. (2019). Plagiarism Viewed From Students' Self-Efficacy and

Academic Procrastination. Psympathic : Jurnal Ilmiah Psikologi, 6(2), 201–212. https://doi.org/10.15575/psy.v6i2.6211

Çapan, E. B. (2010). Relationship among perfectionism, academic procrastination and life satisfaction of university students. Procedia - Social and Behavioral Sciences, 5, 1665–1671. https://doi.org/10.1016/j.sbspro.2010.07.342

Cerino, E. S. (2014). Relationships Between Academic Motivation, Self-Efficacy, and Academic Procrastination. Psi Chi Journal of Psychological Research, 19(4), 156–163. https://doi.org/10.24839/2164-8204.JN19.4.156

Chow, H. P. H. (2011). Procrastination Among Undergraduate Students : Effects of Emotional Intelligence , Efficacy. Alberta Journal of Educational Research, 57(2), 234–240.

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

Dietz, F., Hofer, M., & Fries, S. (2007). Individual values, learning routines and academic procrastination. British Journal of Educational Psychology, 77(4), 893–906. https://doi.org/10.1348/000709906X169076

Eccles, J. S., & Wigfield, A. (2002). Motivational Beliefs, Values, and Goals. Annual Review of Psychology, 53(1), 109–132. https://doi.org/10.1146/annurev.psych.53.100901.135153

Elias, R. Z. (2008). Anti-Intellectual Attitudes and Academic Self-Efficacy Among Business Students. Journal of Education for Business, 84(2), 110–117. https://doi.org/10.3200/JOEB.84.2.110-117

Elias, S. M., & Loomis, R. J. (2002). Utilizing Need for Cognition and Perceived Self-Efficacy to Predict Academic Performance1. Journal of Applied Social Psychology, 32(8), 1687–1702. https://doi.org/10.1111/j.1559-1816.2002.tb02770.x

Ethington, C. A. (1991). A Test of a Model of Achievement Behaviors. American Educational Research Journal, 28(1), 155–172. https://doi.org/10.2307/1162882

Ferrari, J. R., Díaz-Morales, J. F., O'Callaghan, J., Díaz, K., & Argumedo, D. (2007). Frequent Behavioral Delay Tendencies By Adults. Journal of Cross-Cultural Psychology, 38(4), 458–464. https://doi.org/10.1177/0022022107302314

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), 1–6.

Ferrari, J. R., Parker, J. T., & Ware, C. B. (1992). Academic Procrastination: Personality Correlates with Myers-Briggs Types, Self-efficacy, and Academic Locus of Control. Journal of Social Behavior & Personality, 7(3), 495–502.

Freeman, E. K., Cox-Fuenzalida, L., & Stoltenberg, I. (2011). Extraversion and Arousal Procrastination: Waiting for the Kicks. Current Psychology, 30(4), 375–382. https://doi.org/10.1007/s12144-011-9123-0

George, D., & Mallery, P. (2019). IBM SPSS Statistics 25 Step by Step. In IBM SPSS Statistics 25 Step by Step. https://doi.org/10.4324/9781351033909

Ghazal, M. A. (2012). Academic Procrastination: Its Prevalence and Causes from the Perspective of University Students. Jordanian Journal of Educational Sciences, Amman, 8(2), 131–150.

Gökçek, T., Güneş, G., & Gençtürk, E. (2013). Evaluation of Primary School Teachers' Technological Self-efficacy. International Online Journal of Educational Sciences, 5(1), 42–51.

Goroshit, M. (2018). Academic procrastination and academic performance: An initial basis for intervention. Journal of Prevention & Intervention in the Community, 46(2), 131–142. https://doi.org/10.1080/10852352.2016.1198157

Gröpel, P., & Steel, P. (2008). A Mega-Trial Investigation of Goal Setting, Interest Enhancement, and Energy on Procrastination. Personality and Individual Differences, 45(5), 406–411. https://doi.org/10.1016/j.paid.2008.05.015

Grunschel, C., Patrzek, J., Klingsieck, K. B., & Fries, S. (2018). "I'll Stop Procrastinating Now!" Fostering Specific Processes of Self-Regulated Learning to Reduce Academic Procrastination. Journal of Prevention & Intervention in the Community, 46(2), 143–157. https://doi.org/10.1080/10852352.2016.1198166

Gustavson, D. E., & Miyake, A. (2017). Academic procrastination and goal accomplishment: A combined experimental and individual differences investigation. Learning and Individual Differences, 54, 160–172. https://doi.org/10.1016/j.lindif.2017.01.010

Hagemeier, N. E., & Murawski, M. M. (2014). An Instrument to Assess Subjective Task Value Beliefs Regarding the Decision to Pursue Postgraduate Training. American Journal of Pharmaceutical Education, 78(1), 11. https://doi.org/10.5688/ajpe78111

Hajloo, N. (2014). Relationships Between Self-efficacy, Self-Esteem and Procrastination in Undergraduate Psychology Students. Iranian Journal of Psychiatry and Behavioral Sciences, 8(3), 42–49.

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

He, S. (2017). A Multivariate Investigation into Academic Procrastination of University Students. Open Journal of Social Sciences, 05(10), 12–24. https://doi.org/10.4236/jss.2017.510002

Husain, U. K. (2014). Relationship between Self-Efficacy and Academic Motivation. International Conference on Economics, Education and Humanities (ICEEH'14) Dec. 10-11, 2014 Bali (Indonesia), 35–39. https://doi.org/10.15242/ICEHM.ED1214132

Kandemir, M. (2014). Reasons of Academic Procrastination: Self-regulation, Academic Self-efficacy, Life Satisfaction and Demographics Variables. Procedia - Social and Behavioral Sciences, 152, 188–193. https://doi.org/10.1016/j.sbspro.2014.09.179

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

Kitsantas, A., & Zimmerman, B. J. (2009). College students' homework and academic

achievement: The mediating role of self-regulatory beliefs. Metacognition and Learning, 4(2), 97–110. https://doi.org/10.1007/s11409-008-9028-y

Klassen, R. M., Ang, R. P., Chong, W. H., Krawchuk, L. L., Huan, V. S., Wong, I. Y. F., & Yeo, L. S. (2010). Academic Procrastination in Two Settings: Motivation Correlates, Behavioral Patterns, and Negative Impact of Procrastination in Canada and Singapore. Applied Psychology, 59(3), 361–379. https://doi.org/10.1111/j.1464-0597.2009.00394.x

Klassen, R. M., Krawchuk, L. L., & Rajani, S. (2008). Academic Procrastination of Undergraduates: Low Self-efficacy to self-Regulate Predicts Higher Levels of Procrastination. Contemporary Educational Psychology, 33(4), 915–931. https://doi.org/10.1016/j.cedpsych.2007.07.001

Klassen, R. M., & Kuzucu, E. (2009). Academic Procrastination and Motivation of Adolescents in Turkey. Educational Psychology, 29(1), 69–81. https://doi.org/10.1080/01443410802478622

Klingsieck, K. B. (2013). Procrastination. European Psychologist, 18(1), 24–34. https://doi.org/10.1027/1016-9040/a000138

Linnenbrink, E. A., & Pintrich, P. R. (2002). Motivation as an Enabler for Academic Success. School Psychology Review, 31(3), 313–327. https://doi.org/10.1080/02796015.2002.12086158

Mandap, C. M. (2016). Examining the Differences in Procrastination Tendencies among University Students. International Journal of Education and Research, 4(4), 431–436.

McGhie, V. F. (2012). Factors Impacting on First-Year Student's Academic Progress at a South African University. Stellenbosch University.

McWhaw, K., & Abrami, P. C. (2001). Student Goal Orientation and Interest: Effects on Students' Use of Self-Regulated Learning Strategies. Contemporary Educational Psychology, 26(3), 311–329. https://doi.org/10.1006/ceps.2000.1054

Meier, A., Reinecke, L., & Meltzer, C. E. (2016). "Facebocrastination"? Predictors of using Facebook for procrastination and its effects on students' well-being. Computers in Human Behavior, 64, 65–76. https://doi.org/10.1016/j.chb.2016.06.011

Mostafa, A. A. (2018). Academic Procrastination, Self-Efficacy Beliefs, and Academic Achievement among Middle School First Year Students with Learning Disabilities. International Journal of Psycho-Educational Sciences, 7(2), 87–93.

Muslikah, Mulawarman, & Andriyani, A. (2018). Social Media User Students' Academic Procrastination. Jurnal Bimbingan Dan Konseling, 8(2), 53–57.

Nartgün, Ş. S., Kahraman, Z. Y., & Coşkun, A. (2019). The Relationship Between Self-Efficacy and Self-determination Based on English as a Foreign Language Learners' Perceptions. I-Manager's Journal on Educational Psychology, 12(4), 1. https://doi.org/10.26634/jpsy.12.4.15548

Noran, F. Y. (2000). Procrastination Among Students In Institutes of Higher Learning: Challenges For K-Economy.

Nordby, K., Løkken, R. A., & Pfuhl, G. (2019). Playing a Video Game is more than Mere Procrastination. BMC Psychology, 7(1), 33. https://doi.org/10.1186/s40359-019-0309-9

Nwosu, K. C., Ikwuka, O. I., Ugorji, O. M., & Unachukwu, G. C. (2020). Does the Association of Social Media Use with Problematic Internet Behaviours Predict Undergraduate Students Academic Procrastination? Canadian Journal of Learning and Technology / La Revue Canadienne de l'apprentissage et de La Technologie, 46(1). https://doi.org/10.21432/cjlt27890

Onwuegbuzie, A. J. (2004). Academic procrastination and statistics anxiety. Assessment & Evaluation in Higher Education, 29(1), 3–19. https://doi.org/10.1080/0260293042000160384

Özer, B. U., 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

Ozer, M. (2011). A Moderated Mediation Model of the Relationship Between Organizational Citizenship Behaviors and Job Performance. Journal of Applied Psychology, 96(6), 1328–1336. https://doi.org/10.1037/a0023644

Pintrich, P. R. (2000). The Role of Goal Orientation in Self-Regulated Learning. Handbook of Self-Regulation, 451–502. https://doi.org/10.1016/b978-012109890-2/50043-3

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). Motivated Strategies for Learning Questionnaire (MSLQ). Mediterranean Journal of Social Sciences, 6(1), 156–164.

Popoola, B. I. (2005). A Study of Procrastinatory Behaviour and Academic Performance of Undergraduate Students in South Western Nigeria. Journal of Social Sciences, 11(3), 215–218. https://doi.org/10.1080/09718923.2005.11892516

Purdie, N., Hattie, J., & Douglas, G. (1996). Student Conceptions of Learning and Their Use of Self-Regulated Learning Strategies: A Cross-Cultural Comparison. Journal of Educational Psychology, 88(1), 87–100. https://doi.org/10.1037/0022-0663.88.1.87

Rabin, L. A., Fogel, J., & Nutter-Upham, K. E. (2011). Academic procrastination in college students: The role of self-reported executive function. Journal of Clinical and Experimental Neuropsychology, 33(3), 344–357. https://doi.org/10.1080/13803395.2010.518597

Razak, W. M. W. ., Baharom, S. A. S., Abdullah, Z., Hamdan, H., Aziz, N. U. A., & Anuar, A. I. M. (2019). Academic Performance of University Students: A Case in a Higher Learning Institution. KnE Social Sciences, 3(13), 1294. https://doi.org/10.18502/kss.v3i13.4285

Rice, K. G., Richardson, C. M. E., & Clark, D. (2012). Perfectionism, procrastination, and psychological distress. Journal of Counseling Psychology, 59(2), 288–302. https://doi.org/10.1037/a0026643

Schraw, G., Wadkins, T., & Olafson, L. (2007). Doing the things we do: A grounded

theory of academic procrastination. Journal of Educational Psychology, 99(1), 12–25. https://doi.org/10.1037/0022-0663.99.1.12

Schutt, R. K., & Chambliss, D. F. (2013). Chapter 10: Qualitative Data Analysis. Making Sense of the Social World: Methods of Investigation, 320–357. https://doi.org/10.1136/ebnurs.2011.100352

Senécal, C., Julien, E., & Guay, F. (2003). Role conflict and academic procrastination: A self-determination perspective. European Journal of Social Psychology, 33(1), 135–145. https://doi.org/10.1002/ejsp.144

Senécal, C., Koestner, R., & Vallerand, J. (1995). Self-Regulation and Academic Procrastination. The Journal of Social Psychology, 135(5), 607–619. https://doi.org/10.1080/00224545.1995.9712234

Seo, E. H. (2008). Self-efficacy as a Mediator in the Relationship Between Self-Oriented Perfectionism and Academic Procrastination. Social Behavior and Personality: An International Journal, 36(6), 753–764. https://doi.org/10.2224/sbp.2008.36.6.753

Sepehrian, F. (2012). Academic Procrastination and Its Predictive Factors. Journal of Psychological Studies, 7(4), 9–26. https://doi.org/10.22051/psy.2011.1533

Sharma, M., & Kaur, G. (2011). Gender differences in Procrastination and Academic Stress among Adolescents. Indian Journal of Social Science Researches, 8(1), 122–127.

Silva, S. D., Smith, A., & Facciolo, M. (2020). Relations between Self-Efficacy and Procrastination Types in College Students. Modern Psychological Studies, 25(2).

Sokolowska, J., & Zusho, A. (2006). Effective" Procrastination Strategies? Self-Regulation of Academic Procrastination among High Achievers. Paper Presented at the American Psychological Association Annual Convention, New Orleans.

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

Soodak, L. C., & Podell, D. M. (1996). Teacher Efficacy: Toward the Understanding of a Multi-Faceted Construct. Teaching and Teacher Education, 12(4), 401–411. https://doi.org/10.1016/0742-051X(95)00047-N

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

Sub, A., & Prabha, C. (2003). Academic Performance in Relation to Perfectionism, Test Procrastination and Test Anxiety of High School Children. Psychological Studies, 48(3), 77–81.

Taghvaeinei, A. (2018). Effect of Metacognitive Strategies on Help Seeking and Academic Procrastination Probation Students in Yasouj University. Biquarterly Journal of Cognitive Strategies in Learning, 6(11), 193–214. https://doi.org/10.22084/j.psychogy.2018.16042.1744

Talib, N., & Sansgiry, S. S. (2012). Determinants of Academic Performance of University Students. Pakistan Journal of Psychological Research, 27(2), 265–278.

Tan, C. X., Ang, R. P., Klassen, R. M., Yeo, L. S., Wong, I. Y. F., Huan, V. S., & Chong, W. H. (2008). Correlates of Academic Procrastination and Students' Grade Goals. Current Psychology, 27(2), 135–144. https://doi.org/10.1007/s12144-008-9028-8

Taura, A. A., Abdullah, M. C., Roslan, S., & Omar, Z. (2015). Relationship between self-efficacy, task value, self-regulation strategies and active procrastination among pre-service teachers in colleges of education. International Journal of Psychology and Counselling, 7(2), 11–17. https://doi.org/10.5897/IJPC2014.0297

Tentama, F., & Abdillah, M. H. (2019). Student Employability Examined from Academic Achievement and Self-concept. International Journal of Evaluation and Research in Education (IJERE), 8(2), 243. https://doi.org/10.11591/ijere.v8i2.18128

Thatcher, A., Wretschko, G., & Fridjhon, P. (2008). Online flow experiences, problematic Internet use and Internet procrastination. Computers in Human Behavior, 24(5), 2236–2254. https://doi.org/10.1016/j.chb.2007.10.008

Tice, D. M., & Baumeister, R. F. (1997). Longitudinal Study of Procrastination, Performance, Stress, and Health: The Costs and Benefits of Dawdling. Psychological Science, 8(6), 454–458. https://doi.org/10.1111/j.1467-9280.1997.tb00460.x

Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher Efficacy: Its Meaning and Measure. Review of Educational Research, 68(2), 202–248. https://doi.org/10.3102/00346543068002202

Tuckman, B. (1991). The Development and Concurrent Validity of the Procrastination Scale. Educational and Psychological Measurement, 51(2), 473–480. https://doi.org/10.1177/0013164491512022

Tuckman, B. W., & Sexton, T. L. (1992). Self-Believers are Self-Motivated; Self-Doubters are Not. Personality and Individual Differences, 13(4), 425–428. https://doi.org/10.1016/0191-8869(92)90070-6

Vossensteyn, H., Kottmann, A., Jongbloed, B., Kaiser, F., Cremonini, L., Stensaker, B., Hovdhaugen, E. Wollscheid, S., Thomas, L., & Unger, M. (2015). Dropout and Completion in Higher Education in Europe: Main Report. Publications Office of The European Union. https://doi.org/https://doi.org/10.2766/826962

Wang, N., He, P., & Li, Q. (2013). The Relationship between Postgraduates' Academic Procrastination and Psychodynamic Variables. Proceedings of the 2013 International Conference on Education, Management and Social Science. https://doi.org/10.2991/icemss.2013.16

Wang, Z., & Englander, F. (2010). A Cross-Disciplinary Perspective on Explaining Student Performance in Introductory Statistics—What is The Relative Impact of Procrastination? College Student Journal, 44(2), 458–471.

Wazid, S. W., Shahnawaz, G., & Gupta, D. (2016). Procrastination Among Students: The Role of Gender, Perfectionism and Self-esteem. Indian Journal of Social Work, 77(2), 191–210.

Wolters, C. A. (2003). Understanding procrastination from a self-regulated learning perspective. Journal of Educational Psychology, 95(1), 179–187. https://doi.org/10.1037/0022-0663.95.1.179

Wu, F., & Fan, W. (2017). Academic Procrastination in Linking Motivation and Achievement-Related Behaviours: A Perspective Of Expectancy-Value Theory. Educational Psychology, 37(6), 695–711. https://doi.org/10.1080/01443410.2016.1202901

Yilmaz, M. B. (2017). The Relation between Academic Procrastination of University Students and Their Assignment and Exam Performances: The Situation in Distance and Face-to-Face Learning Environments. Journal of Education and Training Studies, 5(9), 146. https://doi.org/10.11114/jets.v5i9.2545

You, J. W. (2015). Examining the Effect of Academic Procrastination on Achievement Using LMS Data in E-Learning. Educational Technology & Society, 18(3), 64–74.

Zeenath, S., & Orcullo, D. J. C. (2012). Exploring Academic Procrastination Among Undergraduates. International Proceedings of Economics Development & Research, 47, 42–46. https://doi.org/10.7763/IPEDR.V47.9.