Predicting Academic Procrastination in Students: Perfectionism, general self-efficacy, and sociodemographic factors

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Abstract. *Procrastination is frequently found in around 30% to 60% of college students. Research that examines academic procrastination isassociated with adaptive-maladaptive perfectionism, general self-efficacy, and sociodemographic factors, expected to gain a comprehensive understanding of procrastination so that anticipatory and countermeasures can be implemented. The target population of this study was male and female college students from state and private universities. The questionnaire was distributed physically and digitally (google-form) to 208 participants using the snowball sampling technique. The research instrument consisted of the Academic Procrastination Scale (APS), The Frost Multidimensional Perfectionism Scale (FMPS), General Self-Efficacy (GSE), and questions on sociodemographic factors. All research instruments have been tested and met the criteria of validity and reliability. After the data cleaning and coding process, the data were assessed using multiple regressions dan hierarchical regression. The data analysis revealed that perfectionism and self-efficacy were generally predictors of procrastination. Similarly, from the results of model testing, all sociodemographic factors simultaneously affected procrastination, but gender was in line with influencing procrastination. Research findings show that procrastination was more motivated by many anxieties due to excessive attention to mistakes and doubts in acting. This research has limitations, namely the origin of the participating universities, primarily private universities rather than state universities. As a result, the level of variability of data sources tends to be low. However, this study'sresults can be followed up to address the issue of academic procrastination.*

Keywords: academic procrastination; adaptive and maladaptive perfectionism; general self-efficacy; sociodemographic

INTRODUCTION

Students face various challenges in performing their academic activities, one of which is motivational barriers in accomplishing achievements,also known as procrastination (Santrock, 2016). Procrastination isprevalent in many areas of daily life (Ying & Lv, 2012), including at school and work, completing duties, free time, family and partnerships, and social contacts (Klingsieck, 2013). However, procrastination is frequently associated with education and work, especially with deadlines (Klingsieck, 2013). The reason for the frequent research of procrastination is that procrastination can result in negative consequences, such as low academic achievement, poor

physical and mental health, or problems in interpersonal relationships (Kurtovic et al., 2019). The discomfort and anxiety accompanying procrastination behavior do not deter students from engaging in it. In fact, approximately 50 percent of students reported that they are accustomed to delaying the start or completion of work on their lectures;as a result, they unconsciously impede the achievement of optimal academic performance.(Klingsieck, 2013; Rabin et al., 2011). A procrastinator usually intends to postpone completing a task even if the delay has negative consequences or will result in unpleasant events (Ferrari, 2010; Pychyl, 2010).

The study results on academic procrastination showed that academic procrastination would not only lead to objective consequences such as decreased academic achievement index, poor class attendance, and dropouts; but also will target the subjective consequences of emotional discomfort (Ying & Lv, 2012).Previous studies haverevealed that if a person realizes that he is procrastinating, he will experience various negative emotions, including the feeling of inferiority, shame, guilt, deception, tenseness, panic, and a general sense of anxiety (Ying & Lv, 2012). Essentially, procrastination is related to a maladaptive lifestyle, which can significantly influence personal and social life by reinforcing feelings about a person'slack of social competence (Ying & Lv, 2012). If this lifestyle lasts for anextended period, the potential stress that is felt may eventually endanger the person's physical and mental health (Ying & Lv, 2012).

Academic procrastination behavior that reflects all forms of procrastination on academic tasks commonly causes failure, academic discomfort, and feelings of stress.It has been proven by numerous studies. For example, Sirois &Pychyl (2013) identified short-term emotional regulation practices with a tendency to reject unpleasant experiences cognitively; there is also intolerance to frustration (Dryden & Dryden, 2014); low self-esteem, depression, and anxiety (Abbasi & Alghamdi, 2015; Beutel et al., 2016; Boysan&Kiral, 2017).

Complex personality trait problems, low motivation, situational factors (Klingsieck et al., 2013); self-efficacy beliefs, (Kağan et al., 2010) and poor time management were frequently mentioned among the existing psychological factors. Perfectionism is also repeatedly considered a factor behind procrastinator behavior (Rice et al., 2012), even contributing to the persistence of perfectionism (Egan et al., 2011). A perfectionist will set excessive goals with unrealistically high standards for himself (Santrock, 2016; Kurtovic et al., 2019; Herman et al., 2013; Rice et al., 2013), and will work hard to achieve them.

This kind of hard work is a driving force that will result in a positive outcome (Santrock, 2016a). However, if the high standards are motivated by the desire to achieve perfection without making a single mistake, perfectionism will turn maladaptive and stressful (Santrock, 2016a). Similarly, if a perfectionist fails to achieve the goals he has set, he will turn around to criticize and judge himself as a useless person overly (Santrock, 2016a). High and unrealistic standards that encourage a perfectionist to procrastinate, actually based on dissatisfaction with their performance or fear of making mistakes that will lead them to negative judgment by others (Kurtovic et al., 2019).

Initially, perfectionism was viewed as a single dimension of a maladaptive trait(Kurtovic et al., 2019) with negative consequences,such as anxiety, low self-esteem, and depression (Lessin & Pardo, 2017). Then, the concept of a multidimensional model of perfectionism was developed, including both adaptive and maladaptive aspects (Kurtovic et al., 2019). Therefore, this study examined perfectionism as a multidimensional model.

The results of previous studies have established a distinction between adaptive perfectionism and maladaptive perfectionism. The adaptive aspect of perfectionism is associated with a wide range of positive outcomes (Hicks & Wu, 2015), whereas the maladaptive aspect of perfectionism is closely

related to psychological difficulties (Rice et al., 2012). The previous studies consistently revealed that procrastination has a positive relationship with the maladaptive aspect of perfectionism, while the adaptive aspect of perfectionism has no relationship or is negatively related to procrastination (Kurtovic et al., 2019).

In addition to perfectionism, which causes a procrastinator to delay the completion of his tasks, previous studies have uncovered that self-efficacy is an integral variable in individual procrastinators. Self-efficacy refers to a person's assessment of one's abilities and the ability to take the necessary actions to complete a task successfully (Azar, 2013). Self-efficacy is one of the factors that can predict a person's performance in various domains, one of which is the realm of education (Azar, 2013). Individuals with a high sense of self-efficacy are more enthusiastic about studying, working hard, and developing effective strategies to overcome academic challenges (Şirin, 2011).

Students'self-efficacy reflectsa belief in their ability to complete academic tasks successfully (Tsai and Tsai, 2010). According to Şirin (2011), every decrease in student confidence in accomplishing achievement will increase students'tendencyto procrastinate. Gao et al. (2011) discovered a negative relationship between procrastination and self-efficacy, which is consistent with previous research results.It means that students with higher general self-efficacy are less likely to procrastinate (Hicks & Wu, 2015; Kurland & Siegel, 2016).

Research in academic procrastination also includes a variety of demographic variables (Rabin et al., 2011), including examining the relationship between academic procrastination and gender (Rabin et al., 2011). Although several research results indicated that males procrastinated more than women, many other research results clarified that there is no gender difference (Rabin et al., 2011). Asimilar study was associated with the age factor, and it was revealed that there is a negative or opposite relationship between age and procrastination (Rabin et al., 2011), while other studies discovered no significant relationship between age and procrastination (Rabin et al., 2011). Although limited studies found a relationship between the two variables, ethnicity and intelligence have no relationship with procrastination.The student with an alcohol problem (Rabin et al., 2011), learning disability (Rabin et al., 2011), and attention problems (Rabin et al., 2011) showed a high level of procrastination.

Although previous studies have independently linked the relationship between procrastination and self-efficacyas well as procrastination and perfectionism, comprehensive procrastination research by simultaneously combining general self-efficacy variables, adaptive and maladaptive perfectionism, and sociodemographic factors have never been researched before. Thus, this research is to gain a deeper understanding of academic procrastination by elaborating the factors in each variable, namely perfectionism (adaptive-maladaptive) and general self-efficacy. The findings of this study are expected to be input for anticipatory steps in overcoming the negative impact of procrastination on student academic performance. For this purpose, the tested hypotheses are (1) the effect of independent variables (adaptive-maladaptive perfectionism, general self-efficacy, and sociodemographic factors) on academic procrastination; (2) an analysis of sociodemographic factors (age, gender, father and mother's employment status, education of both parents) concerning academic procrastination.

METHOD

This study employed a quantitative method with a non-experimental design (Graziano &Raulin, 2014) to examine the variables of perfectionism, general self-efficacy, academic

procrastination, and sociodemographic factors. The target population consistedof male and female students enrolled in private and state universities in Bandung. The questionnaire was prepared in two forms: physical and digital (Google Form) by implementing the snowball sampling technique.

The sociodemographic factors that were asked, along with the distribution of the research questionnaire, found that the study participants were 208 students, 71.1% of them were second-year students, 64.4% of whom were women, and 76.4% came from private universities. Eighty-eight percent of participants stated that they chose a study program based on their interests. Sixty-five-point-seven percent of participants acknowledged the most influential internal factors in lectureobstacles were being unable to manage time, frequently feeling lazy, stressed, and less interested in pursuing college. In the sources of barriers to lectures, data showed about 25.8% of participants thought that the number and level of difficulty of assignments and lecture activities were the most significant obstacles. Further, 5.6% of participants claimed that friends or lecturers were the main obstacles, while 2.8% stated that the foremost obstacle to college was economic problems or health.

Procrastination was assessed using the Academic Procrastination Scale (APS) instrument (McCloskey &Scielzo, 2015). The APS consists of 25 items spread across six dimensions, including psychological beliefs about abilities, attention distractions, social factors, a personal initiative to delay work, time management, and laziness. SPSS version 26.0 was utilized for validity and reliability testing. The trial results showed the reliability of .884 and the item validity ranging from .311 to .606. Self-efficacy was assessed using General Self-Efficacy (GSE) (Lo¨ve, Moore, &Hensing, 2011). This assessing instrument is a unidimensional instrument consisting of 10 items. This test showedthat the reliability value of Cronbach alpha was .792, and the validity of the items ranged from .353 to .585. Perfectionism was assessed using the Frost Multidimensional Perfectionism Scale (FMPS). This assessing instrument is six-dimensional. These six dimensions are divided into two categories: adaptive perfectionism, which consists of personal standards and organizational dimensions; and maladaptive perfectionism, which contains four dimensions: concern over mistakes, parental expectation, parental criticism, and doubt about action. This assessing instrument test uncovered that the reliability value was .836, and the validity of the items ranged from .310 to .535.

Completing all statement items on the three questionnaires was estimated to take about 20-30 minutes. Self-introduction of the research team and institutional affiliations andthe purpose of the research were presented in the foreword to the questionnaire and Google Form, followed by a thank you note for participating in the research as a participant. The data collection process took two months and was completed when no more participants submitted the Google Form.

After the data were collected, cleaning and coding the data was conducted. For example, on the items of college barriers, time management skills, laziness, psychological factors such as stress, and lack of interest are combined into internal factors that could be regulated; health and economic problems are internal factors that cannot be regulated. Testing of assessing instruments wascompleted on each of the scales used. After that, data were analyzed using different test statistics, multiple regression, and hierarchical regression.

RESULTS AND DISCUSSION

The results of descriptive statistical processing (Table 1) research variables show that participants' general self-efficacy and organizational dimension perfectionism indicated a high tendency. In general, participants had a low procrastination tendency, and the factors that became the reason for procrastinating were primarily due to distracted attention. The hypothetical norm

used was to compare the mean and the absolute mean. For the range 1-5 (mean value = 3), for example, if the mean is close to 4 or greater than 3.5, the variable will be categorized as highly inclined.

Table 1.
Descriptive Statistics of Research Variables

Variable	Min	Max	Mean	SD
Procrastination	1.54	4.65	2.83	0.53
Proc. Psychological belief-abilities	1.00	5.00	2.56	0.88
Proc. Distraction	1.00	5.00	3.09	0.82
Proc. Social	1.00	4.67	2.67	0.83
Proc. Personal Initiative	1.50	4.25	2.85	0.53
Proc. TimeManagement/Laziness	1.00	5.00	2.71	0.69
Efficacy	2.60	5.00	3.62	0.44
Perfectionism Adaptive	1.67	5.00	3.61	0.52
Perf.Personal Standard	1.33	5.00	3.50	0.64
Perf.Organizational	2.00	5.00	3.72	0.58
Perf. Maladaptive	1.60	4.55	2.82	0.52
Perf. Concern over Mistakes	1.00	5.00	2.51	0.79
Perf. ParentalExpectation	1.00	4.80	3.08	0.71
Perf. Parental Criticism	1.00	5.00	2.49	0.77
Perf. Doubt about action	1.00	5.00	3.19	0.73

Table 2.
Hierarchical regression test results (Analysis of Variance)

Model	R	R^2	F	p-value
Model 1	0.32	0.10	11.27	0.00***
Model 2	0.43	0.18	15.03	0.00***
Model 3	0.44	0.19	12.17	0.00***
Model 4	0.44	0.20	9.86	0.00***
Model 5	0.45	0.20	8.26	0.00***
Model 6	0.45	0.20	7.04	0.00***
Model 7	0.46	0.21	6.74	0.00***
Model 8	0.46	0.21	5.97	0.00***

Significant at 10% level

**Significant at 5% level*

***Significant at 1% level*

Table 2 and Table 3 present the results of hierarchical regression testing. In Table 2, all sociodemographic factors significantly influenced academic procrastination. Itis clear from the values of R and R2 in Model 1 to Model 8, which show an increasing trend. However, when tested separately by adding each sociodemographic factor to the model in succession, only gender (Table 3, Model 2) and reason for graduation (Table 3, Model 7) showed a significant effect. In Table 3, Model 1 demonstratesthat perfectionism and general self-efficacy interacted to influence academic

procrastination. These results are consistent with multiple regression analyses to find the effect of general self-efficacy, adaptive perfectionism, and maladaptive perfectionism on procrastination. This model can predict procrastination with R = .432 (R^2 = .187, $adjR^2$= .175, F (3, 204)= 15.59, p= .000). Further testing was conducted to determine the effect of adaptive perfectionism, maladaptive perfectionism, and general self-efficacy on academic procrastination, as shown in Table 4.

Table 3.
Hierarchical regression test results for sociodemographic and procrastination factors

Model	Constant		FMPS		GSE		Sex		PT's status	
	B	p-value	B	p-value	B	p-value	B	p-value	B	p-value
1	96.66	0.00	0.05	0.46	-0.88	0.00				
2	110.65	0.00	0.04	0.52	-0.90	0.00	-7.44	0.00		
3	116.27	0.00	0.04	0.56	-0.90	0.00	-7.06	0.00	-3.30	0.08
4	117.61	0.00	0.04	0.55	-0.89	0.00	-7.01	0.00	-3.33	0.08
5	116.76	0.00	0.04	0.51	-0.87	0.00	-6.98	0.00	-3.18	0.09
6	116.57	0.00	0.04	0.51	-0.88	0.00	-6.98	0.00	-3.20	0.09
7	115.21	0.00	0.04	0.54	-086	0.00	-6.51	0.00	-4.19	0.03***
8	114.78	0.00	0.04	0.53	-0.86	0.00	-6.55	0.00	-4.15	0.04***

Model	Father's Job		Mother's Job		Family Structure		Gradutation's reasons		Solution	
	B	p-value	B	p-value	B	p-value	B	p-value	B	p-value
1										
2										
3										
4	-2.09	0.41								
5	-2.30	0.37	-1.01	0.54						
6	-2.28	0.37	-0.99	0.55	0.12	0.89				
7	-2.16	0.39	-1.14	0.49	0.22	0.79	0.57	0.05*		
8	-2.16	0.39	-1.12	0.59	0.22	0.79	0.57	0.05*	0.06	0.86

Table 4.
Adaptive-Maladaptive Perfectionism, and General Self-Efficacy

Model	B	St error	Beta	t	Sig.
Perf. adaptive & Procrastination	-.291	.071	-.287	-4.075	.000
Perf. maladaptive & procrastination	-.085	-.065	-.085	-1.304	.194
Self-eff. & procrastination	-.259	-.084	-.219	-3.073	.002

Table 4 shows that adaptive perfectionism and general self-efficacy were negative predictors of procrastination (p< .005), but maladaptive perfectionism could not predict procrastination (p= .194).

Table 5.
Gender, procrastination, and distraction dimensions

Model	Mean male	SD	Mean female	SD	P-value
Gender & Procrastionation	3.01	.51	2.72	.52	.000
Gender & dimensions of procrastination distraction	3.18	.80	3.03	.82	.215

In Table 3 Model 2, it is known that gender affected academic procrastination. However, it is not yet unknown whether male or female showed a significant effect. For this reason, further testing was performed, and the results are listed in Table 5. By adding the gender factor to the model, it was uncovered that male participants tended to procrastinate more frequently than female participants (p= .000; male mean= 3.01, SD male= .51; Mean female= 2.72, SD female= .52). However, the distraction dimension indicated different result (p= .215).

This study's findings, in general, showed that participants did not have a tendency to be academic procrastinators (Table 1), but previous studies did not support this finding (Rabin et al., 2011; Özer & Saçkes, 2011; Klingsieck, 2013; Seo, 2011). It means that even though the tendency to procrastinate was still present, it was not noticeable. Within reasonable limits, students still tended to delay starting or completing an assignment that had already begun. However, male participants were shown to have a more significant tendency to procrastinate than female participants (Table 5), as confirmed by Rabin et al. (2011).

According to the results of previous studies, adaptive perfectionism and maladaptive perfectionism both contribute significantly to procrastination, namely adaptive perfectionism predicts in a negative or opposite direction as confirmed by (Ozer et al., 2014; Harrison, 2014; Hicks & Meng, 2015), whereas maladaptive perfectionism predicts in a positive direction as confirmed by previous researchers (Chang et al., 2016; Akpur & Yurtseven, 2019; Rice et al., 2012). Adaptive perfectionism is negatively correlated with academic procrastination. Perfectionism that is done positively or based on well-thought-out and pre-calculated reasons will further reduce participant's chances of becoming procrastinators. Perfectionism with adaptive aspects leads to positive outcomes such as life satisfaction, resilience, perseverance, a sense of hope, optimism, and success in the exams (Hicks & Meng, 2015). Previous studies confirmed that perfectionism as a multifaceted concept has a relationship with intrinsic motivation so that the efforts made by perfectionists are analogous to adaptive perfectionism (Greblo et al., 2015).

In contrast to adaptive perfectionism, maladaptive perfectionism in this study was found not significantly to predict procrastination (Table 4). However, the results of previous studies have identified that the factors of maladaptive perfectionism, namely concerns over mistakes and doubts about action, are the factors underlying individuals' procrastination. The existence of anxiety that overshadows the beginning of academic assignments and/or completion of previously begun academic tasks is the cause of procrastination in participants. Rice et al. (2012)confirmed this finding was by stating that procrastination is associated with anxiety, depression, and neuroticism. Meanwhile, two other factors of maladaptive perfectionism, namely parental expectations and parental criticism, are not correlated with procrastination. It means the expectations conveyed by parents to engage participants to be serious in completing their academic activities and criticism or comments made by parents due to unsatisfactory academic performance hardly stimulate participants in improving their procrastination habits.

Beliefs in a person's ability to complete various academic tasks can predict the absence of academic procrastination, as research results from (Wilson & Nguyen, 2012; Cerino, 2014; Katz et al., 2013; Gao et al., 2011). Students who were confident in their abilities to complete their academic tasks would have a low tendency to engage in academic procrastination. This finding explains how cognitive assessments that underlie participant's beliefs about their abilities to cope with academic demands reduce the possibility of participants developing the habit of procrastinating academic activities and tasks.

The Academic Procrastination Scale (APS) in the sample of this study was reduced to 5 (five) dimensions (the original assessment instrument had six dimensions) because laziness and time-

management merged into one dimension. These two dimensions are related, for example, because they feel lazy, the ability to manage time becomes poor; or because of poor time management skills, the works piled up, ex acerbating the feeling of being lazy to complete them. It still needs to be explored further.

Even though it successfully obtained several findings, both those confirmed by previous studies and new results, this study is not without limitations. The main limitation stemmed from the unequal distribution of research participants, which was still dominated by students from private universities, risingconcerns about generalizing research results. Online data collection haslimitations, especially concerning the participant's willingness to contribute to the research. It is preferable to distribute online questionnaires, which offer internet quota as a reward to attract participants, either by lottery or in person.

CONCLUSION

This study revealed that perfectionism variables on the adaptive-maladaptive dimensions and general self-efficacy could predict academic procrastination. Even though it shows a low tendency, academic procrastination is generally caused by participant internal factors. More specifically, factors such as excessive attention to mistakes and doubt in acting were significant forces to encourage academic procrastination. These two factors represented the anxiety in the participants, which would prevent them from starting to work on tasks and/or completing tasks they have previously started.

Other findings can be gleaned from sociodemographic factors. Based on this study result, all sociodemographic factors influenced academic procrastination. However, it would have a different result if the sociodemographic factors were viewed separately, except for the gender factor and the reason for graduation, which still showed their influence. It confirms that complex factors motivate academic procrastination, requiring comprehensive observations to investigate.

REFERENCES

Abbasi, I. S., & Alghamdi, N. G. (2015). The prevalence, predictors, causes, treatment, and implications of procrastination behaviors in general, academic, and work setting. *International Journal of Psychological Studies*, *7*(1), 59–66. https://doi.org/10.5539/ijps.v7n1p59

Akpur, U., & Yurtseven, N. (2019). Structural relationships between academic motivation, procrastination and perfectionism: A modelling study. *Cumhuriyet International Journal of Education*, *8*(1), 284–296. https://doi.org/10.1080/03069885.2016.1213374

Azar, F. S. (2013). Self-efficacy, achievement motivation and academic procrastination as predictors of academic achievement in pre-college students. *Proceeding of the Global Summit on Education*, *3*, 173–178. Retieved from http://www.davidpublisher.com/Public/uploads/Contribute/553ef14021115.pdf

Beutel, M. E., Klein 1, E. M., Aufenanger, S., 1, B., Dreier, M., Müller, K. W., Quiring, O.,

Reinecke, L., Schmutzer, G., Stark, B., & Wölfling, K. (2016). Procrastination, distress and life satisfaction across the age range-a German representative community study. *Plos one*, *11*(2), 1-12. https://doi.org/10.1371/journal.pone.0148054

Boysan, M., & Kiral, E. (2016). Associations between procrastination, personality, perfectionism, self-esteem and locus of control. *British Journal of Guidance & Counselling*, *45*(3), 284–296. https://doi.org/https://doi.org/10.1080/03069885.2016.1213374

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

Chang, E., Lee, A., Byeon, E., Seong, H., & Lee, S. M. (2016). The mediating effect of motivational types in the relationship between perfectionism and academic burnout. *Personality and Individual Differences*, *89*, 202–210. https://doi.org/10.1016/J.paid.2015.10.010

Egan, S. J., Wade, T. D., & Shafran, R. (2011). Perfectionism as a transdiagnostic process: a clinical review. *Clinical Psychology Review*, *31*(2), 203–212. https://doi.org/10.1016/J.CPR.2010.04.009

Ferrari, J. (2010). *Still procrastinating? The no regrets guide to getting it done*. Hoboken, New Jersey: J. Wiley& Sons.

Gao, Z., Lochbaum, M., & Podlog, L. (2011). Self-efficacy as a mediator of children's achievement motivation and in-class physical activity. *Perceptual and Motor Skills*, *113*(3), 969–981. https://doi.org/10.2466/06.11.25.pms.113.6.969-981

Graziano, A. M., & Raulin, M. L. (2014). *Graziano & Raulin, research methods: A process of inquiry international edition (8th Edition).* London, United Kingdom: Pearson

Greblo, Z., Barić, R., & Cecić Erpič, S. (2015). Perfectionistic strivings and perfectionistic concerns in athletes: The role of peer motivational climate. *Current Psychology*, *35*(3), 370–376. https://doi.org/10.1007/S12144-014-9302-X

Harrison, J. (2014). *Academic procrastination: the roles of self-efficacy, perfectionism, motivation, performance, age and gender.* (Unpublished master's thesis). Faculty of Psychology, Dublin Business School, Ireland.

Herman, K. C., Wang, K., Trotter, R., Reinke, W. M., & Ialongo, N. (2013). Developmental trajectories of maladaptive perfectionism among african american adolescents. *Child Development*, *84*(5), 1633–1650. https://doi.org/10.1111/cdev.12078

Hicks, R., (JPsych), F. W.-G. J. of P., & 2015, U. (2015). Psychological capital as mediator between adaptive perfectionism and academic procrastination. *Global Science and Technology Forum (Gstf) Journal of Psychology*, *2*(1), 34-40. Retrieved from http://dl6.globalstf.org/index.php/jpsych/article/view/1369

Kagan, M., Çakir, O., Ilhan, T., & Kandemir, M. (2010). The explanation of the academic procrastination behaviour of university students with perfectionism, obsessive – compulsive and five factor personality traits. *Procedia - Social and Behavioral Sciences*, *2*(2), 2121–2125. https://doi.org/10.1016/j.sbspro.2010.03.292

Katz, I., Eilot, K., & Nevo, N. (2013). "I'll do it later": Type of motivation, self-efficacy and homework procrastination. *Motivation and Emotion*, *38*(1), 111–119. https://doi.org/10.1007/S11031-013-9366-1

Klingsieck, K. B. (2013b). Procrastination when good things don't come to those who wait. *European Psychologist*, *18*(1), 24–34. https://doi.org/10.1027/1016-9040/A000138

Klingsieck, K. B., Grund, A., Schmid, S., & Fries, S. (2013). Why students procrastinate: A qualitative approach. *Journal of College Student Development*, *54*(4), 397–412. https://doi.org/10.1353/csd.2013.0060

Kurland, R. M., & Siegel, H. I. (2016). Attachment and academic classroom behavior: Self-efficacy and procrastination as moderators on the influence of attachment on academic success. *Psychology*, *7*(8), 1061–1074. https://doi.org/10.4236/psych.2016.78107

Kurtovic, A., Vrdoljak, G., & Idzanovic, A. (2019). Predicting procrastination: The role of academic achievement, self-efficacy and perfectionism. *International Journal of Educational Psychology*, *8*(1), 1–26. https://doi.org/10.17583/ijep.2019.2993

Lessin, D. S., & Pardo, N. T. (2017). The impact of perfectionism on anxiety and depression. *Journal of Psychology and Cognition*, *2(*1), 78-82. https://doi.org/10.35841/psychology-cognition.2.1.78-82

Löve, J., Moore, C. D., & Hensing, G. (2012). Validation of the Swedish translation of the General Self-Efficacy scale. *Quality of Life Research : An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, *21*(7), 1249–1253. https://doi.org/10.1007/S11136-011-0030-5

Mccloskey, J., & Scielzo, S. A. (2015). Finally!: The development and validation of the academic procrastination scale. *Experiment Findings*, *Under Review*, 1-42. https://doi.org/10.13140/RG.2.2.23164.64640.

Özer, B. U. (2011). A cross sectional study on procrastination: Who procrastinate more? *International Conference on Education, Research and Innovation (ipedr)*, *18*, 34–37. http://dx.doi.org/10.13140/RG.2.2.23164.64640

Özer, B. U., & Ferrari, J. R. (2011). Gender orientation and academic procrastination: Exploring Turkish high school students. *Individual Differences Research*, *8*(1), 33–40. Retrieved from https://psycnet.apa.org/record/2011-06028-004

Pychyl, T. A. P. D. (2010). *The procrastinator's digest: A concise guide to solving the procrastination buzzle*. Bloomington: Xlibris Corporation.

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

Rice, K. G., Lopez, F. G., Richardson, C. M. E., & Stinson, J. M. (2013). Perfectionism moderates stereotype threat effects on stem majors' academic performance. *Journal of Counseling Psychology*, *60*(2), 287–293. https://doi.org/10.1037/A0032052

Rice, K. G., Richardson, C. M. E., & Clark, D. (2012). Perfectionism, procrastination, and psychological distress. *Journal of Counseling Psychology*, *59*(2), 288–302. Retrieved from https://psycnet.apa.org/record/2012-04141-001

Santrock, J. W. (2016). *Adolescence* (16th edition). New York, USA: McGraw-Hil Publishing Company.

Seo, E. H. (2011). The relationships among procrastination, flow, and academic achievement. *Social Behavior and Personality*, *39*(2), 209–218. https://doi.org/10.2224/sbp.2011.39.2.209

Şirin, E. F. (2011). Academic procrastination among undergraduates attending school of physical education and sports: Role of general procrastination, academic motivation and academic self-efficacy. *Educational Research and Reviews*, *6*(5), 447–455.

Tsai, M. J., & Tsai, C. C. (2010). Junior high school students' internet usage and self-efficacy: A re-examination of the gender gap. *Computers and Education*, *54*(4), 1182–1192. https://doi.org/10.1016/j.compedu.2009.11.004

Uzun Ozer, B., O'Callaghan, J., Bokszczanin, A., Ederer, E., & Essau, C. (2014). Dynamic interplay of depression, perfectionism and self-regulation on procrastination. *British Journal of Guidance & Counselling*, *42*(3), 309–319. https://doi.org/10.1080/03069885.2014.896454

Wilson, B. A., & Nguyen, T. D. (2012). Belonging to tomorrow: An overview of procrastination. *International Journal of Psychological Studies*, *4*(1), 211-217. https://doi.org/10.5539/ijps.v4n1p211

Windy Dryden. (2014). *Dealing with procrastination: An integrated cbt approach*. London, United Kingdom: Routledge.

Ying, Y., & Lv, W. (2012). A study on higher vocational college students' academic procrastination behavior and related factors. *International Journal of Education and Management Engineering*, *2*(7), 29–35. https://doi.org/10.5815/ijeme.2012.07.05