EXPLORING PREDICTIVE ROLE OF SELF-ESTEEM, COPING BEHAVIOR, AND EARLY MALADAPTIVE SCHEMA IN ACADEMIC PROCRASTINATION

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ABSTRACT

Procrastination, defined as the habitual and unnecessary delay of important tasks, appears in various contexts, including academia. It is particularly evident among students who tend to defer academic responsibilities such as exam preparation and homework completion. This study examines the predictive roles of self-esteem, emotion-focused coping, and maladaptive schemas in academic procrastination. We hypothesized that self-esteem would predict lower levels of academic procrastination and, most importantly, explored whether higher levels of emotion-focused coping and insufficient self-control schemas predict academic procrastination beyond the impact of self-esteem. An online survey was conducted with 137 (85 female, 52 male) students pursuing undergraduate, master's, and doctoral education in Poland. Only self-esteem and insufficient self-control schema emerged as significant predictors of academic procrastination while emotion-focused coping was not significant. Results can inform the design of intervention programs aimed at improving students' academic performance by addressing the emotional (self-esteem) and cognitive (self-control schema) aspects of procrastination rather than behavioral (coping).

KEYWORDS

academic procrastination, maladaptive schemas, self-esteem, emotion-focused coping

INTRODUCTION

Procrastination entails postponement of tasks, duties, and responsibilities (Tuckman & Sexton, 1989). It reflects a breakdown in self-regulation, characterized by difficulty in overseeing, managing, and aligning actions with desired standards for controlling impulses, emotions, task completion, and cognitive processes (Balkis & Duru, 2016; Wolters, 2003; Zhang et al., 2019). Despite awareness of the importance of these tasks and their deadlines, individuals succumb to delaying action therefore it is considered an academic failure (Kim & Seo, 2015; Steel, 2007). Procrastination manifests in academia, where it is characterized by students' tendency to postpone completing academic tasks like studying for exams or doing homework. (González-Brignardello et al., 2023). Symptoms of academic procrastination include poor sleep, high levels of stress, delayed work due to lack of time, improper completion of homework, confusion, self-blame, feelings of guilt and inadequacy, low self-esteem, anxiety, and depression (Custer, 2018).

FACTORS EXPLAINING ACADEMIC PROCRASTINATION

Procrastination is also viewed as a means of self-protection for individuals with fragile self-esteem (Burka & Yuen, 1983; Tice, 1991). When faced with challenging situations or tasks, individuals assess their ability to handle tasks based on self-esteem, which is influenced by past successes or failures (Lazarus & Folkman, 1984). If individuals perceive themselves as incapable of completing tasks, it leads to behavioral outcomes such as task avoidance, which manifests as procrastination (Lazarus & Folkman, 1984). Steel (2007) supported claims of appraisal-anxiety theory by demonstrating a correlation between low self-esteem and procrastination. Therefore, when self-esteem levels are low, students may struggle to initiate and persist in tasks, leading to procrastination (Alegre, 2013; Arias-Chávez et al., 2020).

Such tasks could be aversive situations, which require a certain coping behavior as a response (Wechsler, 1995). Coping responses, encompassing behavioral efforts, dynamically adapt to address specific external and/or internal demands perceived as overwhelming or surpassing one's resources (Lazarus & Folkman, 1984). Procrastination can be understood as an emotion-focused coping behavior, wherein individuals seek to avoid negative emotions associated with long-term tasks (Pychyl & Sirois, 2017). Emotion-focused coping involves attempts to lessen emotional distress associated with a stressful situation (Lazarus & Folkman, 1984, Schoenmakers, et al., 2015), which includes different strategies such as denial, seeking out for help, positive reappraisal of events (Baker & Berenbaum, 2007). For instance, heightened emotion-focused coping has been associated with a lower four-year GPA (Grade Point Average) (Thomas et al., 2017). However, conflicting findings have emerged, as another study found no correlation between emotion-focused coping and academic procrastination (Siah et al., 2022).

One's confidence level in achieving a goal such as academic success, but also capacity to control impulses and plan are related to individual schemas, which in case of individuals prone to procrastination, might be maladaptive (Young et al., 2003). Early Maladaptive Schemas (EMS) develop as a result of negative childhood experiences, leading to self-destructive emotional and cognitive patterns, rigid beliefs, and physical sensations. These inflexible schemas can exacerbate psychological challenges and distress, potentially contributing to procrastination. (Schouwenburg et al., 2004; Ellis & Knaus, 1977; Renner et al., 2012; Mojallal et al., 2014). EMS are related to academic anxiety which may become one of main contributors to academic procrastination (Isanejad et al., 2012). Regarding the achievement of long-term goals, people who suffer from procrastination have problems dealing with self-control over short-term pleasures (Sirois & Pychyl, 2013).

The Self-Control schema has been associated with difficulties in achieving long-term goals, emotional instability, and feelings of frustration (Young et al., 2003), which may be linked to both

self-esteem and emotion-focused coping. Dealing with discomfort, a central challenge within Insufficient Self-Control schema, may serve as another contributing factor to procrastination, as indicated by research linking procrastination with difficulties in managing discomfort (Harrington, 2005).

CURRENT STUDY

In this study, our focus was on cognitive factors (schema), emotional factors (self-esteem), behavioral factors (coping), aiming to investigate their predictive roles in academic procrastination. Building upon previous research (Steel, 2007; Wolters, 2003; Lazarus & Folkman, 1984), we hypothesize that lower self-esteem predicts higher levels of academic procrastination (H1). However, relationship between academic procrastination and early maladaptive schemas has been relatively underexplored (Renner et al., 2012; Mojallal et al., 2014), with limited research examining also coping behaviors and inconsistent findings within context of academic procrastination (Sirois & Kitner, 2015; Siah et al., 2022). Therefore, our study aims to fill this gap by investigating whether higher levels of emotion-focused coping and insufficient self-control schema predict academic procrastination over and above impact of self-esteem (H2). Our study aims to comprehensively analyze academic procrastination behavior across emotional, behavioral, and cognitive aspects.

METHODS

PROCEDURE

The online questionnaire was distributed via social media platforms to various communities that gather student studying in Poland. he study was conducted in full accordance with all ethical guidelines. Informed consent was obtained from all participants. Participants were informed that there was no time restriction, although the questionnaire typically took 10 to 15 minutes to complete. English language level of our participants was asked as a single self-report question with 5 items ranging from pre-intermediate A2 to Upper Advanced C2. Participants with minimum B1 English level were included.

PARTICIPANTS

Sample size for our study was calculated via G*Power 3.1.9.7 (Faul et al., 2007) as 119 for a medium effect size of 0.15, power $(1–β)$ =0.95, and $α=0.05$. Study included 141 (85 female;53 male) university students from various cities in Poland, with 66 bachelor's students, 73 master's students, and 2 doctoral students. The minimum age was 18 and maximum was 49, with mean age 26. Participants reported their GPA on a scale from 1 to 5. 60 students had a GPA above 4.00 (42.6%). Regarding their time in Poland, 59 participants (41.8%) had been in Poland for 0-1 years, 42 were from Poland (29.8%). Participants were mainly from Poland, Turkey, Azerbaijan, and Ukraine.

MEASURES

Academic Procrastination Scale (APS) is a comprehensive measure of procrastination in students (McCloskey & Scielzo, 2015). It comprises 25 questions rated on a 5-point Likert scale ranging from 1(Disagree) to 5(Agree). Example items include "I put off projects until last minute" and

"I tend to put off things for next day." The scale demonstrated high internal consistency (α = 0.94) (McCloskey & Scielzo, 2015), consistent with our study's findings (α = 0.92).

Brief-COPE (BC) is a shortened version of original COPE Inventory (Carver 1997; Carver et al., 1989), is a multidimensional self-reported questionnaire with 28 items assessing both effective and ineffective coping strategies in response to stress. A 4-point Likert scale (1="I haven't been doing this at all" to 4="I've been doing this a lot") is used. We used 10-item emotion-focused coping subscale. Facets of the scale demonstrated moderate to good internal consistency (α = 0.50, 0.90) (Carver 1997) and in our study 10 items of emotion-focused subscale showed moderate reliability in general (α = 0.62).

Rosenberg Self-Esteem Scale (RSE) measures general self-esteem (Rosenberg, 1965). Respondents rate items on a 4-point Likert scale from "strongly agree" to "strongly disagree". The scale demonstrates high reliability (α = 0.92) (Rosenberg, 1965) and in our study reliability was good, (α = 0.83).

Young Schema Questionnaire-Revised (YSQ-R) assesses early maladaptive schemas (Yalcin et al., 2021). It is a 6-point Likert scale consisting of 116 items. Scale ranged from 1(Completely untrue of me) to 6(Describes me perfectly). Insufficient Self-Control subscale used for research. All subscales showed good (0.74) to excellent (0.86) reliability (Yalcin et al., 2021). In this study, Insufficient Self-Control/ Self-Control schema subscale showed good (α = 0.80) reliability.

RESULTS

Academic procrastination was found correlated with self-esteem and insufficient self-control schema, without showing significant correlation with emotional coping. (Table 1).

Table 1. Pearson's correlation coefficients

	M	SD	1.	2.	3.	4.
1. Self-Esteem	2	.54	-	-		
2. Emotional Coping	2.74	.54	.26**	1	-	
3. Self-Control Schema	2.90	0.98	-.31**	.03	1	-
4. Academic Procrastination	2.73	.73	-.31**	-.03	.55**	1

** Correlation is significant at the 0.01 level (2-tailed).

To test both hypotheses, hierarchical regression was employed. Firstly, demographic variables: Age, gender and education level are entered to the analysis as control variables. Self-esteem was added in the second step as a predictor of academic procrastination, and in the third step, emotional coping and early maladaptive schema (self-control schema) were added as predictors. Control variables were not significant predictors of academic procrastination. . When added, self-esteem negatively predicted academic procrastination, and Model 2 explained 13% of the variance in academic procrastination. Adding emotional coping and early maladaptive schema significantly improved the model, (R^2 change = .20, p < .001). Model 3 explained 33% of variance in academic procrastination. (Table 2).

Table 2. Model Summary

Model	R	R²	R²_Adj	Std. Error of the Estimate	Change Statistics				
					R² Change	F Change	df1	df2	Sig. F Change
1	.23ᵃ	.05	.03	.72	.05	2.38	3	133	.07
2	.36ᵇ	.13	.10	.70	.08	11.56	1	132	<.001
3	.58ᶜ	.33	.30	.61	.20	20.17	2	130	<.001

a. Predictors: (Constant), Age, Gender, Education level

Predictors: (Constant), Age, Gender, Education level, Self-esteem

Predictors: (Constant), Age, Gender, Education level, Self-esteem, Emotional coping, self-control schema

Gender was a significant predictor of academic procrastination when controlling for age and education level. Women exhibited higher levels of academic procrastination compared to men. In the second model, gender and self-esteem remained as significant predictors when others are controlled. Self-esteem is demonstrated as a significant prediction along with insufficient self-control schema in the last model. (Table 3) Emotion-focused coping had non-significant effect on academic procrastination.

Table 3. Coefficients

	Model	Unstandardized Coefficients		Standardized Coefficients Beta		
		B	Std. Error		t	Sig.
1	(Constant)	3.23	.25		13.03	<.001
	Age	-.01	.01	-.11	-1.22	.226
	Gender	-.25	.13	-.17	-2.00	.048
	Education level	-.11	.13	-.08	-.85	.396
2	(constant)	3.79	.29		13.09	<.001
	Age	.00	.01	-.03	-.34	.73
	Gender	-.24	.12	-.16	-1.99	.05
	Education level	-.05	.12	-.03	-.39	.70
	Self-esteem	-.40	.12	-.29	-3.40	<.001
3	(constant)	2.04	.41		5.03	<.001
	Age	.00	.00	-.02	-.28	.78
	Gender	-.15	.11	-.10	-1.32	.19
	Education level	.06	.11	.04	.54	.59
	Self-esteem	-.25	.11	-.18	-2.22	.03
	Emotional coping	.10	.10	.08	.99	.33
	Self-control schema	.36	.06	.48	6.10	<.001

DISCUSSION

The aim of our research was to investigate the factors that predict academic procrastination. Our first hypothesis proposed that self-esteem would significantly predict academic procrastination. Our second hypothesis posited that incorporating emotional coping and insufficient self-control schema into the initial model would provide a better explanation of academic procrastination. The results partially confirmed our hypotheses, revealing that only self-esteem and insufficient self-control schema were significant predictors.

Our analysis showed that lower self-esteem was associated with higher procrastination, confirming the first hypothesis. This finding is also consistent with previous literature, which links

self-esteem to self-doubt and fear of failure (Steel, 2007; Lazarus & Folkman, 1984; Wolters, 2003). Indeed, when students have low self-esteem, they struggle with continuing on what they started, which leads to academic procrastination (Alegre, 2013; Arias-Chávez et al., 2020).

Furthermore, the analysis revealed that self-esteem remains a significant predictor of academic procrastination, along with the insufficient self-control schema, but not with emotion-focused coping, which was found to have a non-significant effect on procrastination. Therefore, our second hypothesis must be rejected. Academic procrastination is linked to the ability to exercise self-control over short-term pleasures in order to achieve long-term goals (Sirois & Pychyl, 2013). Our results align with previous studies (Harrington, 2005; Isanejad et al., 2012), as the self-control schema was found to be a significant predictor of academic procrastination.

Although emotional coping behavior was significantly related to self-esteem, it was unrelated to academic procrastination. This finding echoes the contradictory findings in the literature regarding emotional coping and procrastination (Sirois & Kitner, 2015; Siah et al., 2022).

LIMITATIONS AND CONCLUSION

Both academic procrastination and emotion-focused coping are linked to GPA (Thomas et al., 2017). Future studies should include this analysis, which we could not do due to missing data. Examining also the interaction between external stressors like academic workload, social pressure, and procrastination could offer a deeper understanding of the phenomenon. Additionally, the questionnaires were in English, even though most participants were not native English speakers. Future studies involving native speakers could provide valuable insights.

Despite its limitations, this study provides valuable insights into psychological factors related to academic procrastination. The results can guide the development of intervention programs to enhance students' academic performance by targeting the emotional (self-esteem) and cognitive (self-control) aspects of procrastination, rather than focusing solely on behavioral coping strategies.

All the authors declare that they have no conflict of interest.

REFERENCES

Alegre, A. (2013). Self-efficacy and academic procrastination of university students in Metropolitan Lima. *PropóSitos Y Representaciones*, *1*(2), 57–82. https://doi.org/10.20511/pyr2013.v1n2.29

Arias-Chávez, D., Ramos-Quispe, T., Villalba-Condori, K., & Cangalaya-Sevillano, L.M. (2020). Self-efficacy and academic procrastination: A study conducted in university students of metropolitan Lima. *International Journal of Innovation, Creativity and Change*, *11*(10), 374-390.

Baker, J. P., & Berenbaum, H. (2007). Emotional approach and problem-focused coping: A comparison of potentially adaptive strategies. *Cognition and Emotion, 21*(1), 95–118. https://doi.org/10.1080/02699930600562276

Balkis, M., & Duru, E. (2016). Procrastination, self-regulation failure, academic life satisfaction, and affective well-being: Underregulation or misregulation form. *European Journal of Psychology of Education, 31*(3), 439–459. https://doi.org/10.1007/s10212-015-0266-5

Burka, J. B., & Yuen, L.M. (1983). Procrastination: Why You Do It What to Do about It. Cambridge, MA: Da Capo Press

Carver C.S. (1997). You want to measure coping but your protocol's too long: consider brief COPE. International journal of behavioral medicine, 4(1), 92–100. https://doi.org/10.1207/s15327558ijbm0401_6

Custer N. (2018). Test Anxiety and Academic Procrastination Among Prelicensure Nursing Students. *Nursing education perspectives*, *39*(3), 162–163. https://doi.org/10.1097/01.NEP.0000000000000291

Ellis, A., & Knaus, W.J. (1977). Overcoming procrastination. New York, NY: Institute for Rational Living.

González-Brignardello, M. P., Sánchez-Elvira Paniagua, A., & López-González, M.Á. (2023). Academic Procrastination in Children and Adolescents: A Scoping Review. *Children (Basel, Switzerland)*, *10*(6), 1016. https://doi.org/10.3390/children10061016

Harrington, N. (2005). It's too difficult! Frustration intolerance beliefs and procrastination. *Personality and Individual Differences, 39*(5), 873–883. https://doi.org/10.1016/j.paid.2004.12.018

Isanejad, O., Heidary, M. S., Rudbari, O., & Liaghatdar, M.J. (2012). Early maladaptive schemes and academic anxiety. *World Applied Sciences Journal, 18*(1), 107-112. https://doi.org/10.5829/idosi.wasj.2012.18.01.3684

Korman, A.K. (1976). Hypotheses of work behavior revisited and an extension. *Academy of Management Review, 1*, 56-63.

Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York, NY: Springer Publishing Company.

McCloskey, J., & Scielzo, S.A. (2015). Finally! development and validation of Academic Procrastination Scale. Manuscript submitted for publication.

Mojallal, M., Khosrojavid, M., Pakzad, F., & Ghanbari, M. (2014). Early Maladaptive Schemas, Body Image, and Self-Esteem in Iranian Patients Undergone Cosmetic

Surgery Compared with Normal Individuals. *Practice in Clinical Psychology*, *2*(3), 201–210. http://jpcp.uswr.ac.ir/article-1-177-en.pdf

Pychyl, T. A., & Sirois, F.M. (2016). Procrastination, emotion regulation, and well-being. In F.M. Sirois & T.A. Pychyl (Eds.), *Procrastination, health, and well-being* (pp. 163–188). Elsevier Academic Press. https://doi.org/10.1016/B978-0-12-802862-9.00008-6

Renner, F., Lobbestael, J., Peeters, F., Arntz, A., & Huibers, M. (2012). Early maladaptive schemas in depressed patients: stability and relation with depressive symptoms over course of treatment. *Journal of affective disorders*, *136*(3), 581–590. https://doi.org/10.1016/j.jad.2011.10.027

Rosenberg, M. (1965). Rosenberg Self-Esteem Scale (RSE). In Acceptance and commitment therapy. Measures package (Vol. 61, p. 52).

Schoenmakers, E. C., van Tilburg, T. G., & Fokkema, T. (2015). Problem-focused and emotion-focused coping options and loneliness: how are they related? European journal of ageing, 12(2), 153–161. https://doi.org/10.1007/s10433-015-0336-1

Schouwenburg, H.C. (2004). Procrastination in Academic Settings: General Introduction. In H.C. Schouwenburg, C.H. Lay, T.A. Pychyl, & J.R. Ferrari (Eds.), *Counseling procrastinator in academic settings* (pp. 3–17). American Psychological Association. https://doi.org/10.1037/10808-001

Siah, P. C., Murugan, L., Loo, L. Q., Tan, M. T., & Tan, S.M. (2022). Sense of coherence and academic procrastination: Coping strategies as mediators. *Journal of Institutional Research Southeast Asia*, *20*(2).

Siaputra, I.B. (2010). Temporal motivation theory: Best theory (yet) to explain procrastination. Anima Indonesian Psychological Journal, 25(3), 206-214.

Sirois, F. M., & Kitner, R. (2015). Less adaptive or more maladaptive? A meta analytic investigation of procrastination and coping. *European Journal of Personality*, *29*(4), 433–444. https://doi.org/10.1002/per.1985

Steel, P., & König, C.J. (2006). Integrating theories of motivation. *Academy of Management Review, 31*(4), 889–913. https://doi.org/10.2307/20159257

Steel, P., Svartdal, F., Thundiyil, T., & Bro n, T. (2018). Examining procrastination across multiple goal stages: A longitudinal study of temporal motivation theory. *Frontiers in Psychology, 9,* Article 327. https://doi.org/10.3389/fpsyg.2018.00327

Tuckman, B.W., & Sexton, T. (1989, April). Effects of relative feedback in overcoming procrastination on academic tasks. *Paper given at the meeting of the American Psychological Association*, New Orleans, LA.

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

Zhang, S., Liu, P., & Feng, T. (2019). To do it now or later: The cognitive mechanisms and neural substrates underlying procrastination. *Wiley Interdisciplinary Reviews: Cognitive Science*, *10*(4), e1492. https://doi.org/10.1002/wcs.1492

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175–191. https://doi.org/10.3758/BF03193146