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Performance Perfectionism and its Relation to Academic Procrastination and Depression among Early Childhood Student Teachers

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Abstract: Academic procrastination is a complex, psychologically heterogeneous phenomenon in academic settings. It involves postponing or evading the accomplishment of academic assignments and is associated with self-regulation, forgetfulness and intellectual dogmatism. The present study aimed at identifying the correlation between performance perfectionism and academic procrastination and depression among early childhood student teachers. Three tools were administered online to 600 randomly selected early childhood student teachers: The Performance Perfectionism Scale, the Active Academic Procrastination Scale, and the Depression Scale. Statistical analyses were conducted and hypotheses were tested using SPSS 20.0 and AMOS 20.0 (both by IBM). The results of the study indicated that there is a statistically significant positive correlation between performance perfectionism and academic procrastination (0.283), while there is a statistically significant negative correlation between performance perfectionism and depression (-0.223). The results of the study also indicated that there is a statistically significant negative correlation between depression and academic procrastination (-0.425). The results of the present study increase our insight into the academic procrastination problem and shed light on the variables that are considered to be a reason for its increased prevalence among school and university students. They also focus on the negative outcomes that affect learners' psychology, performance, personality traits and quality of life. The study recommends educating school and university students, school teachers, faculty members and families on the causes of the spread of academic procrastination among students, mainly external factors. The study maintains that schools and universities should provide an encouraging and reinforcing environment for both young and adult learners (e.g., balanced division of workload, and not pressuring students with courses that challenge their ability, rely on memorization, are not connected with reality, and are not needed by the labor market), and train teachers to vary the teaching strategies used in the classrooms, taking into consideration individual differences, whether in abilities and competences or in personality traits. The study also recommends that schools and universities should prepare educational counselors and psychological specialists in kindergartens, schools and universities so that they can raise children and students' awareness, and train them to employ and develop adaptive emotional regulation strategies.

Keywords: Performance perfectionism – academic procrastination – depression – early childhood student teachers.

1. Introduction

Without the accelerating pace of life, the upholding of the principle of competitiveness and comparison among people, the poor ability to manage time and realize its value, and the excessive use of technology, people began to tend to procrastinate many of their tasks to the last moment or evade doing them on purpose. The phenomenon of postponing tasks and assignments for later is known as “procrastination” (Saplavska & Jerkunkova, 2018). The terms “postponing,” “putting off,” and “delaying” are closely related to the term “procrastination”. This behavior occurs not only in daily life, but it also prevalent in schools and educational settings (Mardini & Arslan, 2022). Procrastination refers to deliberate postponing tasks, failing to start or complete important tasks, or accomplishing unimportant tasks instead of more important tasks despite an individual's awareness of the negative outcomes of postponing or evading the accomplishment of priority tasks (Rozental, Forstrom, Hussoon, & Klingsieck, 2022; Sirois, Molnar, & Hirsch, 2022; Khosla, 2021; Kathleen & Basaria, 2021; Bojuwoye, 2019; Smoletz, 2019; Saplavska & Jerkunkova, 2018). Procrastination occurs in almost all everyday activities. It has cognitive, affective and behavioural manifestations such as postponement of decisions, compulsive procrastination, and academic procrastination. Academic procrastination is the most common form (Bojuwoye, 2019).

Academic procrastination is considered a complex, psychologically heterogeneous phenomenon in academic settings. It involves postponing or evading the accomplishment of academic assignments and is associated with self-regulation, forgetfulness and intellectual dogmatism. It also expresses an individual's need to accomplish a task or

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activity or complete a project, but s/he fails to find a motive to accomplish it in time (Bojuwoye, 2019; Saplavska & Jerkunkova, 2018; Nowrin, 2016; Nazl, Hassan & Luqman, 2012). The results of the studies conducted by (Akkaya, 2007; Nowrin, 2016; Saplavska & Jerkunkova, 2018; Smoletz, 2019; Kholsa, 2021; Mardini & Arslan, 2022; Sirois, et al, 2022) indicated that academic procrastination is a common problem among school and university students. According to the results of previous research almost all school and university students procrastinate from time to time (Ramadhanti, 2020; Stoliarchuk, Khrypko, Olga, Ishchuk, Kokhanova, Sorokina & Salata, 2022; Saplavska & Jerkunkova, 2018; Solomon & Rothblum, 1984; Mensik & O'Sullivan, 2000; Ozer, Demir & Ferrari, 2009; Steel, 2007; Rozental, et al., 2022). As for the reason for the spread of procrastination among school and university students, the results of the study of Smoletz (2019) have shown that 80-90% of the students reported that they procrastinate. Khosla (2021) found that 75% reported that they procrastinate on a large basis, while Saplavska & Jerkunkova (2018) found that 46-95% of students consider themselves procrastinators who need help. Stoliarchuk, et al. (2022) found that 80-95% of the students procrastinate at least once, and in America the results of Mardini & Arslan's (2022) study confirmed that 95% of the students engage in procrastination. In Holland 70% of the students procrastinate (Smoletz, 2019), and in Damascus 75% of the students engage in procrastination. The results of Kathleen & Basaria's (2021) showed that 13.4% of the students are chronic procrastinators, whereas Stoliarchuk, et al. (2022) found that 20% are pathological procrastinators. The study conducted by Rozental, et al. (2022) confirms that many procrastinators do not seek help or treatment due to the accompanying problems of self-regulation and self-control from which they suffer and also due to feelings of shame.

Academic procrastination is considered a problematic and serious problem that have negative effects on students (Abdizarrin, Gracia & Paixao, 2020). Several studies have found a correlation between academic procrastination and stress, anxiety, depression, dissatisfaction, self-criticism, regret, low academic achievement, anger, shame, sadness, feeling of guilt, low feeling of psychological well-being, melancholy, disorganization, forgetfulness, behavioral rigidity, cheating, plagiarism, fear of failure, evasion of task performance, impulsiveness, social anxiety, ineffective work, disappointment, and self-doubt (Smoletz, 2019; Rozental, et al., 2022; Kathleen & Basaria, 2021; Smoletz, 2019; Saplavska & Jerkunkova, 2018; Nowrin, 2016; Stoliarchuk, et al., 2022; Abdizarrin, et al., 2020; Abdullah, 2017; Feng, Huang & Liu, 2018). Academic procrastination occurs as a result of external and internal factors. External factors include upbringing styles, environmental conditions, and teaching strategies used by teachers (Ifiandra, 2009; Babadogan, 2010; Kathleen & Basaria, 2021), while internal factors include low self-efficacy (Damri, et al., 2017; Kathleen & Basaria, 2021; Bojuwoye, 2019), failure to regulate self (Salturk, 2022; Thakkat, 2009; Kathleen & Basaria, 2021; Smoletz, 2019; Sirois, et al., 2022; Rozental, et al., 2022; Saplavska & Jerkunkova, 2018; Khosla, 2021; Nowrin, 2016), fear of failure (Saadipour, Soltanizadeh & Ghavam, 2020; Bojuwoye, 2019; Nowrin, 2016; Kathleen & Basaria, 2021; Smoletz, 2019; Sirois, et al., 2022; Burka & Yuen, 2008), and perfectionism (Kathleen & Basaria, 2021; Khosla, 2021; Nowrin, 2016; Belgin, 2019; Jadidi, Mohammad Khani & Tajrishi, 2011).

Perfectionism is defined as a personality trait that is characterized by a person's concern for flawlessness, adherence to high performance standards, excessive concerns about quality, high self-evaluation, and concerns regarding others' evaluation (Flett & Hewitt; Belgin, 2019; Nowrin, 2016; Greenspon, 2008). Perfectionism can be adaptive or maladaptive. Adaptive perfectionism refers to a person's striving to be perfect through setting high performance standards and is associated with obtaining good grades that express high academic achievement. Maladaptive perfectionism refers to negative reactions to failure in achieving performance in accordance with high standards such as fear of making mistakes, fear of failure, negative self-evaluations, and concern about others' evaluation (Gluschkoff, Elovainio, Hintsanen, Mulla, Pulkki-Raback, Keltikangas-Jarvinen & Hintsanen, 2017; Nazl, Hassan & Luqman, 2012). Maladaptive perfectionism causes procrastination among students (Nazl, Hassan & Luqman, 2012). Perfectionists like to have everything perfect and often postpone doing their tasks because of their inability to achieve the high performance standards to which they adhere to (Kathleen & Basaria, 2021). Perfectionists strive compulsively and unceasingly towards unattainable goals. The pressure which the person exercises on himself inevitably results in feelings of failure and disappointment (Nowrin, 2021). When they fail to achieve their goals, they often suffer from depression. The results of several studies have shown the role of maladaptive perfectionism as a risk factor for developing various psychological disorders, particularly depression (Gluschkoff, et al., 2017; Nowrin, 2016).

The studies conducted by (Belgin, 2019; Kathleen & Basaria, 2021; Nowrin, 2016; Jadidi, et al., 2011) aimed at investigating the relationship between academic procrastination and perfectionism among university students. The studies of (Smoletz, 2019; Stoliarchuk, et al., 2022; Dardara & Al-Makhalid, 2022; Abdullah, 2017) aimed at investigating the correlations between academic procrastination and mental health. The study conducted by Far, Tavakol, Tavakoli & Meymand (2022) aimed at revealing the constructive relationships between academic procrastination, psychological burnout and academic achievement, while the study conducted by Belgin (2019) investigated the role of academic perfectionism and academic procrastination in predicting self-forgiveness levels. The present study aims at revealing the correlations between performance perfectionism and both of academic procrastination and depression among early

2. Methods:

2.1 Research Data Description:

The population for this study involved 600 female students in the first through the eighth level. A random sample of 400 female students was drawn from this population. The tools were administered online. The age of the subjects ranged between 20 and 27 years ($M = 21.51$ years; $SD = 2.19$). Table (1) below shows the mean scores and standard deviations of the study sample on the Performance Perfectionism Scale, the Active Academic Procrastination Scale, and the Depression Scale.

The following are descriptive statistical results about the research variables:

Table 1: Descriptive Statistics Results

Variables	N	Mean	Std. Deviation
Age	143	21.51	2.19
ASSP	143	53.21	13.65
AOPA	143	56.59	8.99
PPS	143	111.35	16.09
AAPS	143	55.10	6.16
Depression	143	15.03	3.44

2.2. Statistical analyses:

Descriptive analyses were performed on all subjects depending on whether responses were categorical or continuous. A correlation matrix was constructed using Pearson correlation coefficients. Cronbach’s alpha was used to assess the internal consistency of the scales, where alphas equal to or greater than 0.70 are considered acceptable (Bland & Altman, 1997).

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted to extract scale factors. Participants were split randomly into two separate groups. In Group 1 ($n = 200$), EFA was performed using the principal components analysis with Promax rotation (an oblique rotation method allowing factors to correlate with each other). The Kaiser-Meyer-Olkin (KMO) index was used to measure sample adequacy, where KMO values of 0.6 or higher indicate adequacy. The Bartlett’s test of sphericity was used to assess the appropriateness of the correlations between variables in the factor model.

In Group 2 ($n = 200$), CFA using the maximum likelihood method was performed to assess the stability of factor structure. Model adequacy was determined using the chi-square test with degrees of freedom (df), where a p -value less than 0.05 indicates model adequacy. Indices for model fit included the comparative fit index (CFI), normed fit index (NFI), Goodness of Fit Index (GFI), incremental fit index (IFI), and root mean square error of approximation (RMSEA). Values of $CFI > 0.90$, $NFI > 0.90$, $GFI > 0.95$, $IFI > 0.90$, and $RMSEA < 0.08$ indicate that model fit is acceptable (Hu & Bentler, 1999). All statistical analyses were conducted using IBM SPSS 23.0 version software (SPSS Inc., Chicago, IL, USA). In this study, the minimum limit for the accepted loading factor is 0.5 (Ghozali, 2014).

The Validity and Reliability of the Performance Perfectionism Scale (PPS): (Chang, 2006)

Construct validity was examined by exploratory factor analysis (EFA) followed by confirmatory factor analysis (CFA). EFA in the sample (Group 1) revealed a KMO index = 0.884, and the Bartlett’s test of sphericity indicated the sample was factorable at $p < 0.001$ ($\chi^2 = 4512.92$, $df = 496$). The two extracted factors accounted for 55.46% of the total variance. As indicated in Table (2), factor 1 (“Adapting to subjective”) included items (1, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 29, 30, 31), whereas factor 2 (“Adapting to others’ standards in performance appraisal”) included items (2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 28, 32). CFA confirmed the two factor model for the PPS ($\chi^2 = 74.19$; $df = 461$; $p < 0.001$, $\chi^2 / df = 1.942$, $GFI = 0.961$, $CFI = 0.954$, $NFI = 0.915$, $IFI = 0.956$, $RMSEA = 0.054$) (see Fig. 1).

Table (2) shows the test of the measurement model including composite reliability and Cronbach's alpha. With regard to the composite reliability, the criterion of composite reliability was assessed to verify the internal consistency reliability. The values showed the constructs’ scores are at an acceptable level of reliability. Hence, internal consistency was confirmed. For the factors’ loading, all items were higher than 0.5.

Table 2: Exploratory factor analysis for PPS

items	Factor Component		Communalities	items	Factor Component		Communalities
	1	2			1	2	

1	0.762	0.155	0.605	17	0.443	0.713	0.705
2	0.202	0.821	0.715	18	0.712	0.167	0.535
3	0.342	0.658	0.550	19	0.113	0.743	0.565
4	0.787	0.206	0.662	20	0.758	0.024	0.575
5	0.092	0.585	0.351	21	0.291	0.573	0.413
6	0.407	0.077	0.172	22	0.837	0.041	0.702
7	0.398	0.502	0.410	23	0.029	0.732	0.537
8	0.712	0.274	0.582	24	0.645	0.319	0.518
9	0.376	0.576	0.473	25	0.242	0.785	0.675
10	0.713	0.125	0.524	26	0.709	0.242	0.561
11	0.215	0.604	0.411	27	0.252	0.753	0.631
12	0.785	0.233	0.671	28	0.285	0.618	0.463
13	0.251	0.697	0.549	29	0.705	0.215	0.543
14	0.696	0.186	0.519	30	0.719	0.323	0.621
15	0.042	0.672	0.453	31	0.843	0.115	0.724
16	0.835	0.180	0.730	32	0.199	0.751	0.604
Variance explained: factor 1 = 30.37%, factor 2 = 25.09%							

Table 3: Item Loading (IL), Composite Reliability (CR), and Cronbach's alpha for PPS

Construct Name	items	IL	Construct Name	items	IL
Adapting to subjective standards of performance	a1	0.844	Adapting to others' standards in performance appraisal	a2	0.795
	a4	0.789		a3	0.768
	a6	0.535		a5	0.520
	a8	0.810		a7	0.629
	a10	0.692		a9	0.691
	a12	0.864		a11	0.604
	a14	0.786		a13	0.759
	a16	0.794		a15	0.570
	a18	0.789		a17	0.705
	a20	0.651		a19	0.690
	a22	0.753		a21	0.631
	a24	0.780		a23	0.656
	a26	0.812		a25	0.803
	a29	0.665		a27	0.794
a30	0.827	a28	0.650		
a31	0.775	a32	0.802		
α	CR		α	CR	
0.927	0.957		0.911	0.937	

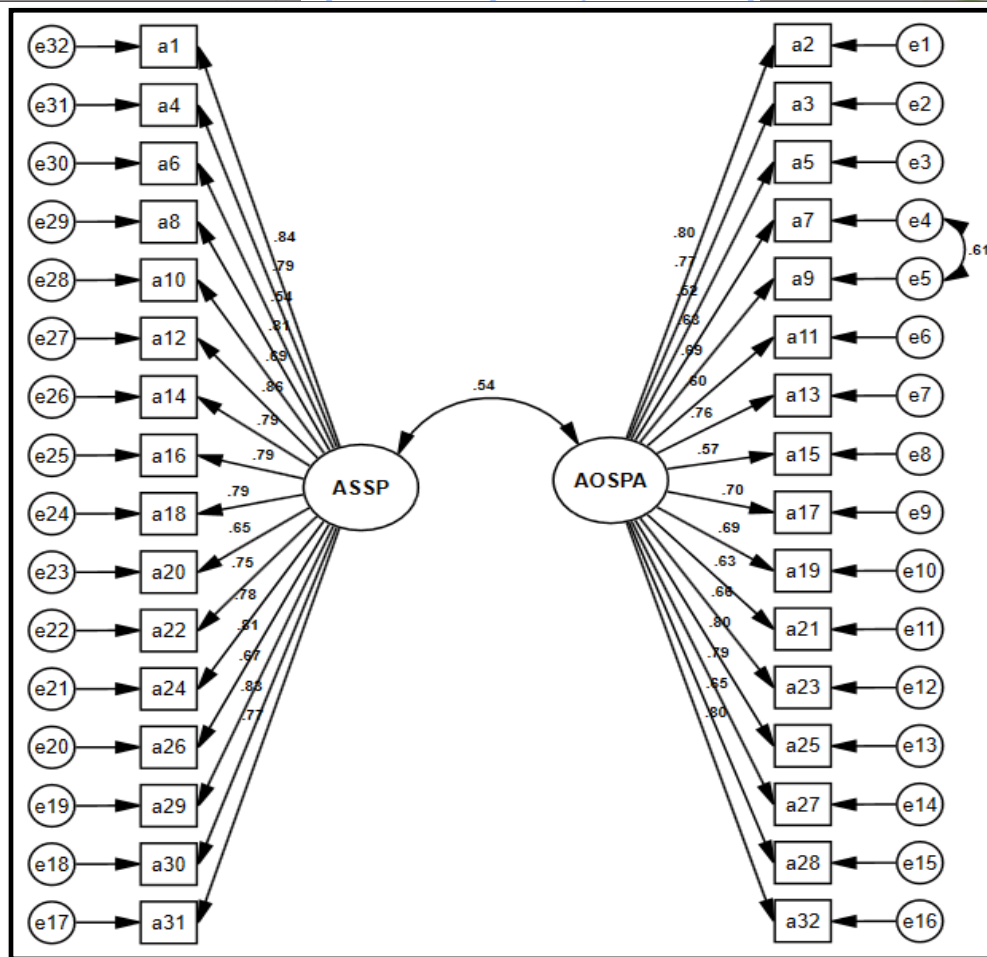


Fig. 1: The structural model of the PPS obtained with CFA

The Validity and Reliability of Active academic Procrastination Scale (AAPS): (Choi & Moran, 2009)

Construct validity was examined by confirmatory factor analysis with maximum likelihood method was used with SPSS Amos 24. Analysis of goodness-of-fit indices showed that one factor model based on 18 items of the AAPS fit the data best (Figure 1). The following goodness-of-fit indices were obtained: $\chi^2 = 74.19$; $df = 133$; $p < 0.001$, $\chi^2 / df = 1.942$, $GFI = 0.951$, $CFI = 0.936$, $NFI = 0.919$, $IFI = 0.940$, $RMSEA = 0.057$) (see Fig. 2).

Table (4) shows the test of measurement model including composite reliability, and Cronbach's alpha. In regard to the composite reliability, the criterion of composite reliability was assessed to verify the internal consistency reliability. The values showed the constructs scores are at acceptable level of reliability. Hence, internal consistency was confirmed. For the factors' loading, all items were higher than 0.5.

Table 4: Item Loading (IL), Composite Reliability (CR), and Cronbach's alpha for PPS

items	IL	Items	IL
1	0.538	10	0.690
2	0.568	11	0.577
3	0.519	12	0.575
4	0.520	13	0.632
5	0.621	14	0.503
6	0.785	15	0.602
7	0.702	16	0.618
8	0.562	17	0.557
9	0.705	18	0.714
α		CR	
0.880		0.909	

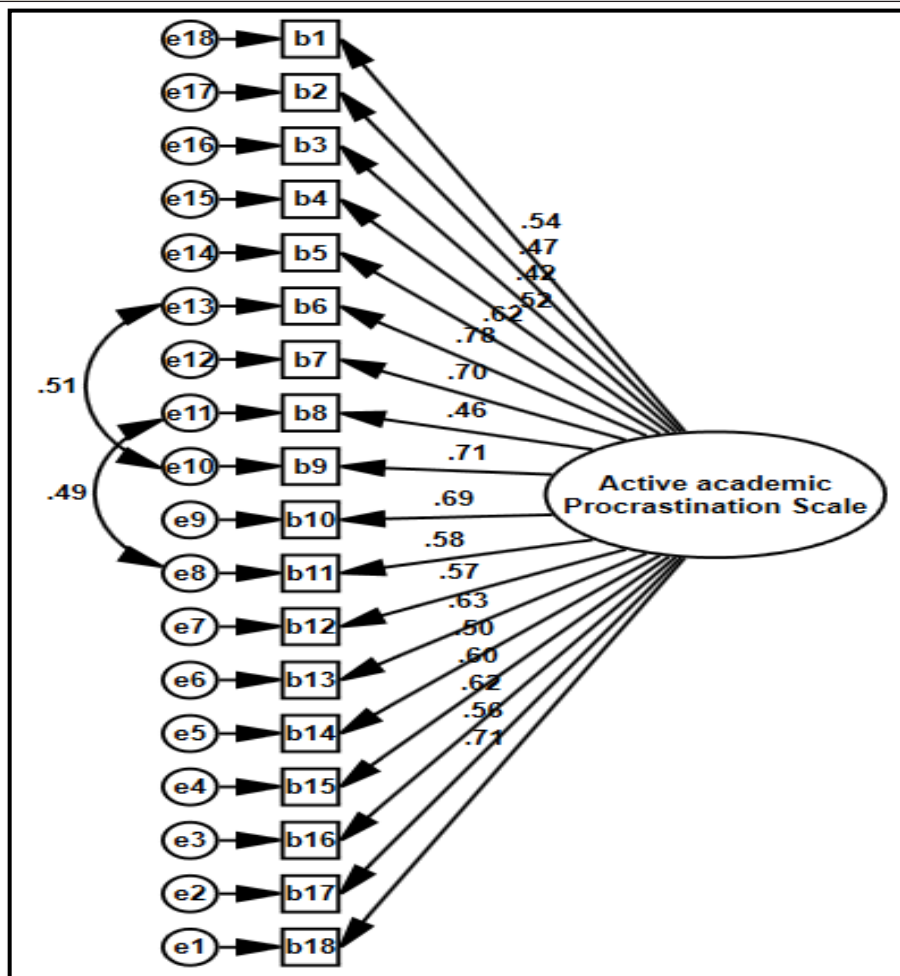


Fig. 2: The structural model of the AAPS obtained with CFA

3. Results:

Relationships between Performance Perfectionism, Active academic Procrastination and Depression:

We examined the relationships between performance perfectionism, active academic procrastination and depression. For these analyses, we used Pearson correlation coefficient. Table (5) shows the correlations between performance perfectionism, active academic procrastination and depression.

Table 5: Correlations between Performance Perfectionism, Active academic Procrastination and Depression

Variables	1	2	3	4
1 ASSP	1.000			
2 AOPA	0.440**	1.000		
3 PPS	0.598**	0.705**	1.000	
4 AAPS	0.283**	0.416**	0.575**	1.000
5 BDI-II	-0.223**	-0.456**	-0.205**	-0.425**

Note: ASSP = Adapting to subjective standards of performance, AOPA = Adapting to others' standards in performance appraisal, PPS = Performance Perfectionism, AAPS = Active academic Procrastination Scale, BDI-II= Beck depression inventory

4. Conclusion and Discussion:

The first hypothesis was formulated to investigate the relationship between performance perfectionism and academic procrastination. Results indicated that there is statistically significant positive correlation between the subjects' scores on the Performance Perfectionism Scale and their scores on the Active Academic Procrastination Scale as shown in table

(5). The value of Pearson correlation coefficient was 0.575, which is statistically significant at $p = 0.01$. Results also indicated that there is statistically significant positive correlation between the subjects' scores on the dimensions of adapting to subjective standards of performance and adapting to others' standards in performance appraisal and their scores on the Active Academic Procrastination Scale, as the values of Pearson correlation coefficient were 0.283 and 0.416, which are statistically significant at $p = 0.01$. The results regarding this hypothesis are consistent with the results reached by Jadidi (2011), Nowrin (2019), Abdizarrin, et al. (2020), Yosopov (2020), and Kathleen & Basaria (2021) who found a significant correlation between performance perfectionism and academic procrastination among school and university students. Perfectionists think that everything they do should be perfect and postpone performing their responsibilities and tasks because of their expectation of failure and their inability to achieve the high performance standards that they have set for themselves. This result is confirmed by Nazl, et al. (2012) who found that maladaptive perfectionism causes academic procrastination among students, and that perfectionists who impose illogical standards on themselves will inevitably procrastinate on a pathological basis.

As for the results of the second hypothesis which aimed at revealing the correlation between performance perfectionism and depressive symptoms, the results of the study indicated that there is statistically significant negative correlation between the subjects' scores on the Performance Perfectionism Scale and their scores on the Depression Scale. The value of Pearson correlation coefficient was -0.205, which is statistically significant at $p = 0.01$. Results also indicated that there is statistically significant negative correlation between the subjects' scores on the dimensions of adapting to subjective standards of performance and adapting to others' standards in performance appraisal and their scores on the Depression Scale, as the values of Pearson correlation coefficient were -0.223 and -0.546, which are statistically significant at $p = 0.01$. Belgin (2019) states that the more severe academic procrastination is, the less likely a person forgives himself. Self-unforgiveness and self-flagellation are considered symptoms of depression. Results indicated that there is a negative correlation between academic procrastination and psychological well-being, self-compassion, mental health and quality of life (Smoletz, 2019), and between academic procrastination and academic achievement (Balkis, 2014). Results also indicated that there is a positive correlation between academic procrastination and anxiety, severe psychological stress, maladaptation, and suicidal tendencies (Saplavska & Jerkunkova, 2018).

As for the results of the third hypothesis which aimed at revealing the correlation between academic procrastination and depressive symptoms, the results of the study indicated that there is statistically significant negative correlation between the subjects' scores on the Active Academic Procrastination Scale and their scores on the Depression Scale. The value of Pearson correlation coefficient was -0.425, which is statistically significant at $p = 0.01$. This result is consistent with the results reached by Nowrin (2019) who maintains that when perfectionists do not attain their goals, they often suffer from depression. This study also looks upon maladaptive perfectionism as a risk factor that leads to suicide. The results of this hypothesis also confirms the results reached by Gluschkoff, et al. (2017) regarding the role of maladaptive perfectionism as a risk factor for many forms of psychological disorders, particularly depression. The results of Gluschkoff, et al.'s (2017) study also confirm that perfectionism correlates with some of the symptoms of depression like anorexia nervosa.

The results of the present study increase our insight into the academic procrastination problem and shed light on the variables that are considered a reason for its increased prevalence among school and university students. They also focus on the negative outcomes that affect learners' psychology, performance, personality traits and quality of life. The study recommends educating school and university students, school teachers, faculty members and families on the causes of the spread of academic procrastination among students, mainly external factors. The study argues that schools and universities should provide an encouraging and reinforcing environment for both young and adult learners (e.g., balanced division of workload, and not pressuring students with courses that challenge their ability, rely on memorization, are not connected with reality, and are not needed by the labor market), and train teachers to vary the teaching strategies used in the classrooms, taking into consideration individual differences, whether in abilities and competences or in personality traits.

As for the practices necessary to confront the internal factors that are considered a reason for the increased prevalence of academic procrastination among students, they include preparing educational counselors and psychological specialists in kindergartens, schools and universities so that they can raise children and students' awareness, and train them to employ and develop adaptive emotional regulation strategies and self-control skills; raising their awareness of self-efficacy, its components and its role in the quality of academic and psychological life; and educating them on academic perfectionism beliefs and their role in task postponement and evasion, fear of failure because of setting unrealistic performance standards that are unattainable; and focusing on the dissemination of positive psychological ideas and quality of life.

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Conflict of interest

The authors declare that there is no conflict regarding the publication of this paper.

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