

ORIGINAL ARTICLE

Demographic factors, personality, and executive functions as predictors of procrastination in Polish and Ukrainian youth

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BACKGROUND

Procrastination is an irrational and unproductive behavior that disrupts psychological well-being and the quality of interpersonal relationships. The study aimed to determine the differences between Polish and Ukrainian youth in procrastinating and establish personality and executive functions as predictors of procrastination. Also, cultural differences were taken into account.

PARTICIPANTS AND PROCEDURE

It included 180 students (86 females and 94 males) aged 12 to 17; 84 lived in Lublin, Poland, while 96 lived in Lviv, Ukraine. The Pure Procrastination Scale, Ten Item Personality Inventory, and Comprehensive Executive Function Inventory were used.

RESULTS

There were no significant differences in the level of procrastination between the whole Polish and Ukrainian

groups, but age was an important predictor of procrastination. Gender was not a differentiating factor within the Polish or Ukrainian group. The most stable negative set of predictors of procrastination appeared to be age, agreeableness, and inhibitory control. These traits can be helpful in dealing with procrastination tendencies.

CONCLUSIONS

Our research shows that an ability to control procrastination depends more on predispositions related to personality traits than on executive function improvement linked to the maturation of the frontal lobes. Combining the demographic, personality, and executive variables showed that students in the older age groups were more resistant to procrastination.

KEY WORDS

country; age; gender; personality; executive functions

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BACKGROUND

Procrastination generally means delaying, extending, or stopping completing a task (Zakeri et al., 2013). It often leads to ineffective outcomes and lower course program completion rates in academic settings. Since such delay is irrational and counterproductive, it also disturbs psychological well-being. Studies report low life satisfaction, low self-confidence, chronic stress, anxiety, depression, chronic illness, and poor health behaviors (Ferrari, 2020; Mann, 2016; Schraw et al., 2007; Stead et al., 2010; Steel, 2007, 2010).

It is believed to be a self-regulatory disorder yielding short-term benefits at the expense of later negative consequences (Rabin et al., 2011). Studies also highlight the significance of personality (Kim et al., 2017), motivation (Wypych et al., 2018), self-efficacy (Tan et al., 2008), perfectionism (Yurtseven & Akpur, 2018), and age (Safiye & Vukčević, 2020). A meta-analysis revealed relationships of self-efficacy, impulsiveness, self-control, distractibility, achievement motivation, neuroticism, rebelliousness, and sensation seeking with procrastination (Steel, 2007). Also, Tibbett and Ferrari (2015) report procrastination to be linked with neuroticism, unconscientiousness, and introversion. Watson (2001) points to self-consciousness and depression, while Johnson and Bloom (1995) found vulnerability and impulsiveness to be its predictors. At the same time, other studies found agreeableness (Burka & Yuen, 1983/2008) conscientiousness (Karatas, 2015), extraversion (Schouwenburg & Lay, 1995), and openness (Watson, 2001) to be negatively correlated with procrastination.

PROCRASTINATION IN ADOLESCENTS FROM DIFFERENT CULTURES

Furthermore, most procrastination studies concentrate on university students, and only a few include adolescents (Chen & Han, 2017; Fulano et al., 2018; Markiewicz et al., 2019). Also, reports on the impact of culture on the procrastination behaviors of the youth are sparse. Klassen et al. (2010) observed higher levels of procrastination among Singaporean adolescents than among young Canadians and higher levels among male students than among female students. Markiewicz et al. (2019) noted more frequent procrastination behaviors among Polish female students than those living in Austria in their study conducted among Polish and Polish-Austrian adolescents. However, males reported higher levels of procrastination than females in both groups. At the same time, adolescents living in Poland procrastinated more often than their Austrian peers living in Austria since birth. These differences might reflect differences between the eastern and western cul-

tures representing collectivist versus individualistic approaches (Hofstede, 2011; Mann, 2016).

PRESENT STUDY

In light of the above-described data, we decided to examine two countries anchored in Eastern culture: Poland and Ukraine. They are countries of similar history, but unlike Ukraine, Poland has been a member of the European Union for almost 20 years. Moreover, the Russian impact on Ukraine was more substantial since it was one of the Soviet Union republics, resulting in different cultural features described by Hofstede (2011). Studies revealed both similarities and differences. Poland is a hierarchical, individualistic, masculine, principled, normative, and restrained society, while Ukraine is a hierarchical, collectivist, feminine, principled, pragmatic, and restrained country. Hence, the two countries differ in individualism, masculinity, and long-term orientation (Hofstede Insights, n.d.).

At the same time, the findings described above show that research on procrastination gives contradictory results regarding personality. In the case of executive functions and the impact of culture, reports are rare; consequently, we need more knowledge on these factors. Therefore, the present study aimed to delineate the nature of relationships between procrastination, demographic factors, culture, personality, and executive functions to delineate potential links.

We formulated the following hypotheses:

H1: Polish and Ukrainian adolescents differ in the level of procrastination, dominance (intensity) of certain personality traits, and executive functions.

H2: Demographic (gender, age, country of residence), personality (based on TIPI), and executive functions (based on CEFI) variables, as a group of predictors, allow for predicting procrastination propensity.

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

The target group encompassed secondary school students from Poland and Ukraine. It comprised 180 students (86 females and 94 males; $\chi^2 = 0.36$, $p = .551$) aged from 12 to 17 ($M = 14.81$, $Md = 15.00$, $SD = 1.31$), living in Poland (Lublin – 84 students: 43 females, 41 males, $\chi^2 = 0.05$, $p = .827$), and Ukraine (Lviv – 96 students: 51 females, 45 males, $\chi^2 = 0.38$, $p = .540$). We tried to make the study groups as compatible as possible. Both Polish and Ukrainian students came from middle-class families, and Lublin and Lviv are provincial cities. Furthermore, in both provinces, a total lockdown was introduced during the COVID-19

period, which resulted in online learning. It was also loosened during the period of the current research. An acceptable difference in group size between Polish and Ukrainian adolescents was confirmed by the chi-squared test ($\chi^2 = 0.80, p = .371$). Two study groups were also distinguished: early (88 subjects aged 12-14) and late (92 subjects aged 15-17) adolescence ($\chi^2 = 0.09, p = .766$). There were no statistically significant differences in the numbers representing younger and older adolescents in the Polish ($\chi^2 = 0.00, p = 1.00$) or Ukrainian ($\chi^2 = 0.17, p = .683$) groups.

Students participated in the study with parental and teacher consent. The study took place in classrooms in the presence of teachers. The research took place in September 2020 (during the interval between pandemic waves 2 and 3). The Research Bioethics Committee of the WSEI University in Lublin (no. 1/09/2020) and the Research Ethics Committee of Lviv Polytechnic National University (no. 380663283568) approved the study, which was conducted under the principles of the Helsinki Declaration

PSYCHOMETRIC MEASURES

All participants completed:

The 12-item Pure Procrastination Scale (PPS; Steel, 2010; Polish adaptation of Stępień & Topolewska, 2014; Ukrainian: Zhuravlova & Zhuravlov, 2019) that measured the degree of self-reported academic procrastination. Scores above 30 indicate a higher level of procrastination, with a maximum possible score of 60. The tool's reliability was assessed using Cronbach's α , which was .89 in the Polish and .85 in the Ukrainian version. The internal consistency of the total score expressed by Cronbach's α coefficient is .80 in the Polish group and .82 in the Ukrainian group.

Ten Item Personality Inventory (TIPI-PL; Gosling et al., 2003, Polish adaptation of Sorokowska et al., 2014; Ukrainian: Sprynska, 2018). The authors emphasize that their goal was to create a short, easy-to-use instrument with a small number of items. It results in a small α value, but for short scales, temporal stability indicators are considered more significant than internal consistency (see Romero et al., 2012). In the Polish version, the correlation coefficients between test-retest measurement sets ranged from .66 to .74; all correlations were statistically significant at $p < .001$. In the Ukrainian version, the correlation coefficients between test-retest measurement sets ranged from .61 to .80; all correlations were statistically significant at $p < .01$. Good psychometric properties of the TIPI have been confirmed in Belgium (Hofmans et al., 2008), Germany (Muck et al., 2007), Japan (Oshio et al., 2013), Portugal (Nunes et al., 2018), Spain (Romero et al., 2012), the U.S. (Ehrhart et al., 2009), Poland (Sorokowska et al., 2014), and Ukraine (Sprynska, 2018). In this case, Cronbach's α

coefficient in the Polish group was .43, and in the Ukrainian group .58.

Comprehensive Executive Function Inventory (CEFI; Naglieri & Goldstein, 2014; in Polish version of Kaczmarek et al., 2018 and Ukrainian translated by Oryshchyn-Buzhdyhan). The Ukrainian version was translated from both English and Polish texts to ensure the reliability of the translation. CEFI is a 100-item rating scale assessing attention, emotion regulation, flexibility, inhibitory control, initiation, organization, planning, self-monitoring, and working memory. The inventory aims to measure executive function abilities in children and youths aged 5 to 18. The CEFI can be administered for 15 minutes in clinical, educational, and research settings. Cronbach's α reliability coefficients of this tool reach .76 in the Polish group and .78 in the Ukrainian group.

All three tests are widely used for research and diagnosis purposes and are considered robust, reliable, and valid measures. Polish and Ukrainian adaptations of the tools have been prepared according to generally accepted procedures considering cultural, linguistic, and psychometric properties.

RESULTS

DESCRIPTIVE ANALYSES

Means and standard deviations of all variables regarding the country of origin, age, and gender are presented in Supplementary materials, Table S1. We also assessed the distribution of the values of study variables to ensure an appropriate choice of statistical tests. The parameters of the distribution of the scores were measured with Kolmogorov-Smirnov (for the whole tested group; $N > 100$) and Shapiro-Wilk statistics (for the group of Polish and Ukrainian adolescents separately; $N < 100$), and homogeneity of variance was evaluated with Levene's test. The homogeneity of variance for both examined groups was confirmed except for *cognitive flexibility* and *planning*. The distribution of values of most variables was skewed in both entire groups of adolescents.

STATISTICAL ANALYSES

All statistical analyses were performed in IBM SPSS Statistics 26.0 for Windows.

To verify hypothesis 1: Polish and Ukrainian adolescents differ in the level of procrastination, dominance (intensity) of certain personality traits, and executive functions, Student's t -statistics for independent groups were used for those variables which fulfilled the condition of homogeneity of variance, and Mann-Whitney U -statistics, a non-parametric equivalent of Student's t -test, for variables in which

homogeneity of variance was not confirmed. In addition to the total procrastination score, we calculated the results for the factors distinguished in the Polish version of PPS: decisional, behavioral, and maladaptive procrastination. For most variables, the

difference in means was calculated. However, we computed the mean rank difference for cognitive flexibility and planning due to the lack of homogeneity of variances. The obtained values are summarized in Table 1.

Table 1

Means, standard deviations, and intercorrelations for variables under study (Study 1)

		Difference in means ($M_{PI} - M_U$)	$t_{gl}(178)$ $t_{male}(84)$ $t_{female}(92)$	p	F	p	Cohen d
PPS _{gen}	Global	-1.20	-0.92	.361			
	Male	-1.02	-0.51	.615	0.04	.853	
	Female	-1.37	-0.81	.421	0.03	.873	
PPS _{dec}	Global	-0.05	-0.11	.911			
	Male	-0.29	-0.45	.654	0.54	.467	
	Female	0.16	0.33	.774	0.02	.878	
PPS _{beh}	Global	0.44	0.55	.580			
	Male	0.85	0.73	.467	0.62	.434	
	Female	0.09	0.08	.939	0.91	.344	
PPS _{mal}	Global	-1.59	-3.86	< .001			0.58
	Male	-1.58	-2.39	.019	0.23	.635	0.52
	Female	-1.62	-3.15	.002	0.11	.737	0.66
TIPI _{ex}	Global	-0.21	-0.44	.660			
	Male	-0.10	-0.13	.896	2.75	.101	
	Female	-0.30	-0.48	.632	0.03	.872	
TIPI _{agr}	Global	-0.48	-1.25	.212			
	Male	0.08	0.17	.868	1.13	.290	
	Female	-1.01	-1.75	.084	0.08	.782	
TIPI _{cons}	Global	-0.26	-0.61	.544			
	Male	-0.12	-0.21	.838	0.04	.884	
	Female	-0.39	-0.64	.527	0.05	.818	
TIPI _{em_stab}	Global	0.69	1.45	.148			
	Male	-0.10	-0.14	.888	0.30	.586	
	Female	1.39	2.25	.027	0.98	.324	0.47
TIPI _{opennes}	Global	0.11	0.33	.740			
	Male	0.11	0.27	.787	0.06	.816	
	Female	0.10	0.20	.884	1.10	.297	
CEFI _{gen}	Global	5.93	1.08	.284			
	Male	9.16	1.17	.247	0.63	.428	
	Female	2.95	0.38	.706	0.65	.421	

(Table 1 continues)

Table 1

(Table 1 continued)

		Difference in means ($M_{PI} - M_U$)	$t_{gl}(178)$ $t_{male}(84)$ $t_{female}(92)$	p	F	p	Cohen d
CEFI_att	Global	3.38	3.18	.002			0.48
	Male	3.07	1.99	.050	0.24	.626	0.43
	Female	3.63	2.47	.015	1.03	.314	0.51
CEFI_emot_reg	Global	-1.38	-1.73	.085			
	Male	-1.09	-0.94	.351	0.10	.758	
	Female	-1.65	-1.49	.140	0.12	.731	
CEFI_flex	Global	4.31	$U = 3839.00$.579			
	Male	2.75	863.50	.609			
	Female	1.67	1057.50	.767			
CEFI_inhibit_contr	Global	1.23	1.70	.091			
	Male	1.75	1.74	.086	0.21	.647	
	Female	0.75	0.72	.474	1.10	.297	
CEFI_initiation	Global	-.39	-0.50	.617			
	Male	0.57	0.49	.626	3.77	.057	
	Female	-1.25	-1.22	.226	0.05	.820	
CEFI_organiz	Global	1.88	2.15	.033			0.32
	Male	2.84	2.13	.036	2.26	.137	0.47
	Female	0.99	0.86	.393	0.01	.928	
CEFI_planning	Global	-2.62	$U = 3914.50$.736			
	Male	-1.53	889.50	.775			
	Female	-0.54	1084.00	.924			
CEFI_self_monit	Global	0.20	0.24	.809			
	Male	0.78	0.63	.528	0.64	.427	
	Female	-0.38	-0.37	.716	0.59	.444	
CEFI_work_mem	Global	1.34	1.66	.099			
	Male	1.46	1.27	.209	2.43	.123	
	Female	1.24	1.10	.277	0.16	.689	

Note. PPS_gen – general procrastination; PPS_dec – decisional procrastination; PPS_beh – behavioral procrastination; PPS_mal – maladaptive procrastination; TIPI_ex – extroversion; TIPI_agr – agreeableness; TIPI_cons – conscientiousness; TIPI_em_stab – emotional stability; TIPI_opennes – openness to experiences; CEFI_gen – general executive function; CEFI_att – attention; CEFI_emot_reg – emotional regulation; CEFI_flex – flexibility; CEFI_inhibit_contr – inhibitory control; CEFI_initiation – initiation; CEFI_organiz – organization; CEFI_planning – planning; CEFI_self_monit – self monitoring; CEFI_work_mem – working memory; gl – global.

Analysis by Student's t -test showed that the mean of maladaptive procrastination reaches higher values in the group of Ukrainian adolescents, both among males and among females. Cohen's d value ($d_{global} = 0.58$, $d_{male} = 0.52$, $d_{female} = 0.66$) indicates the average standardized effect size for measuring the difference between two group means. In the case

of personality traits, Polish females showed higher emotional stability than their Ukrainian peers; Cohen's d coefficient ($d_{female} = 0.47$) indicates a weak standardized effect size. Regarding executive functions, attention appeared to reach higher values in Polish adolescents than in Ukrainian adolescents, among both female and male students. The effect size

of Cohen's d appeared to be weak both for the study group as a whole ($d_{\text{global}} = 0.48$) and in the male group ($d_{\text{male}} = 0.43$), while in the females a medium effect size was observed ($d_{\text{female}} = 0.51$).

On the other hand, the organizational factor differentiates the studied groups, achieving higher rates in the group of Polish adolescents. However, Cohen's d effect size suggests a weak ($d_{\text{global}} = 0.32$) relationship. No differences were found between Polish and Ukrainian females, while differences between Polish and Ukrainian males were significant, but Cohen's d value indicates a weak effect ($d_{\text{male}} = 0.47$).

To verify hypothesis 2: Demographic (gender, age, country of residence), personality (based on TIPI), and executive functions (based on CEFI) variables, as a group of predictors, allow for predicting procrastination propensity, we conducted a hierarchical regression analysis (HLM – hierarchical linear modeling). It aimed to identify the group of predictors associated with the tendency to procrastinate among adolescents.

Before proceeding with the regression analysis, assumptions regarding correlations between variables were checked. Given the skewed distribution of variables, we used Spearman's rho statistic. Predictors should correlate with the explained variable but should not correlate or be too strongly related to each other. Thus, in the first step, the correlation of predictors with the explained variable was checked. The data confirmed the correlation of the following variables with the explained variable:

- a. Among demographic variables, it was age ($r = -.18$).
- b. Among personality traits, they were extraversion/extraversion ($r = -.31$), agreeableness ($r = -.23$), conscientiousness ($r = -.50$) and openness to experiences ($r = -.20$).
- c. Among executive functions – overall dimension ($r = -.32$), attention ($r = -.41$), inhibitory control ($r = -.24$), initiation ($r = -.21$), organization ($r = -.40$), planning ($r = -.17$), and self-monitoring ($r = -.18$).

The next step and prerequisite for hierarchical regression analysis is the absence of correlation between predictors. The Spearman rho correlation analyses showed no correlation between gender and other predictors or between age and demographic and personality variables (except for openness to experience). At the same time, among the executive functions, there was no correlation with only two: emotional regulation and inhibitory control. The analysis of the correlation between personality traits and executive factors showed that:

- Extraversion does not correlate with emotional regulation, flexibility, and planning.
- Agreeableness does not correlate with most executive predictors (except for emotional regulation and working memory).
- Conscientiousness does not correlate with emotional regulation, planning, or working memory.

- Emotional stability does not correlate with most predictors forming the structure of executive functions (except for attention and emotional regulation).

- Openness to experiences does not correlate with executive predictors (exceptions are flexibility and organization).

Of the demographic variables, only age was a significant predictor of procrastination behavior. The standardized $\beta = -.16$ confirms the negative correlation between age and procrastination. The difference in means indicates a higher level of procrastination in younger students (12-14 years). It should be noted that the average level of procrastination of younger students in both groups (Polish and Ukrainian) exceeded the value of 31 points (see Supplementary materials, Table S1). This indicates a high intensity of this tendency. In the Polish group of older students, average scores remained slightly above the value of 30 points, and in the Ukrainian group, their value was marginally lower.

- Differences in means for gender were statistically insignificant in both study groups.
- As age was found to be a more significant predictor of procrastination than gender or country of origin, the next step was to determine the impact of this variable in relation to personality traits and particular aspects of executive function.

Hierarchical regression was conducted in three steps: 1) the variable age was introduced; 2) personality traits, uncorrelated with the other predictors, were added; 3) we included executive functions, uncorrelated with the other predictors (see Supplementary materials, Table S2 and S3).

The first model (M1) is common to all levels of regression analyses; it is based on the variable age and indicates that students of the younger age group are more likely to procrastinate. Next, we introduced sets of predictors: age and personality traits (M2) and age, personality traits, and executive function (M3).

The first set of predictors included age, extraversion, emotional regulation, and flexibility. The β coefficient values are significant for age (M1: $\beta = -.16$) and indicate that students representing the younger age group are more likely to procrastinate. The model assuming the simultaneous co-occurrence of the two variables (M2: $\beta_{\text{age}} = -.15$; $\beta_{\text{extraversion}} = -.38$) explains that the level of procrastination is low, especially in extraverted students from the older age group (15-17 years). The results obtained for Model 3 confirm the association of procrastination with the co-occurring variables age and extraversion. In contrast, no significant effects were obtained for the inclusion of the third variable (emotional regulation and flexibility). The β coefficient proved insignificant for none of the aspects of executive function.

Another set of predictors of procrastination was age combined with agreeableness, flexibility, and inhibi-

tory control. After taking into account two variables (M2: $\beta_{\text{age}} = -.20$; $\beta_{\text{agreeableness}} = -.29$), the level of procrastination behavior decreased in older students with high agreeableness. And after considering variables belonging to the executive function, the value of the β coefficient turned out to be significant only for inhibitory control (M3: $\beta = -.27$). This means that the procrastination tendency is weaker in older students with dominant agreeableness and high inhibitory control.

The last set of predictors of procrastination analyzed was age combined with conscientiousness, emotional regulation, and flexibility. The combination of the two variables (M2: $\beta_{\text{age}} = -.18$; $\beta_{\text{conscientiousness}} = -.52$) showed that the level of procrastination decreased in older students with high conscientiousness. When variables representing executive functions – emotional regulation, and flexibility (M3) – were included, the value of the β coefficient was no longer significant.

DISCUSSION

The study aimed to determine which demographic variables (age, gender, country of residence), personality traits (captured in the so-called Big Five model), and executive functions might predict procrastination propensity. Unlike many previous studies (e.g. Ferrari, 2020; Gustavson & Miyake, 2017; Mann, 2016; Stead et al., 2010; Zhou, 2020) we were not interested in single variables, but we analyzed the simultaneous contribution of these predictors. To achieve this goal, we conducted hierarchical regression analyses (HLM – hierarchical linear modeling), which allowed us to control for the effect of a group of variables on the dependent variable.

In contrast to earlier studies that reported cultural differences (Klassen et al., 2010; Markiewicz et al., 2019), we found that procrastination propensity was high in both Polish and Ukrainian adolescents. The only differences concerned the maladaptive dimension of procrastination, which was higher among Ukrainian youth. The lack of significant differences in the procrastination behaviors of our participants may be explained by the fact that both Poland and Ukraine belonged to the Eastern Bloc. Also, Ferrari et al. (2005) found no differences in procrastination propensity in adults from the United Kingdom, Australia, and the United States, again countries of similar backgrounds. This justifies the rationale for the research on more diverse cultures.

Of the demographic variables, only age was found to be a significant predictor, which again contradicts other findings. Tezer (2020) found male high school students more prone to procrastinate than female students. Interestingly, this tendency was correlated with problematic internet usage during the pandemic period. Our study did not reveal gender differences, but older students (15-17 years) procrastinated less

than younger students (12-14 years), which was in contrast with research conducted before the pandemic period. Markiewicz et al. (2019) found younger students to be the least procrastinating group compared to high school and college students.

The reason that older adolescents were a less procrastinating group may be due to better control of their behavior, which was found to develop with age (Segalowitz & Davies, 2004). To verify this assumption, we introduced additional predictors into the analyses: selected aspects of executive function (based on the CEFI) and personality traits. Among executive functions, only inhibitory control combined with agreeableness and age proved to be a negative predictor of procrastination behavior. Inhibitory control is the ability to inhibit stimuli that are irrelevant to achieving a specific goal (Diamond, 2013; Tiego et al., 2018). A high rate of inhibitory control may indicate the ability to resist temptations associated with distance learning. Such temptations include feigning attendance, being late to class at any time, or attending class while lying in bed (Markiewicz et al., 2021). Parents are usually unable to deal with these behaviors because they are at work. The findings may indicate that older teenagers found it easier to maintain control over their actions. It is important to note that Ukrainian students experienced similar difficulties (Haletska et al., 2021). At the same time, they reported such positives as a chance to slow down and have more time for friends and family. Again, similar opinions were reported by Polish respondents (Kaczmarek & Gaś, 2021; Markiewicz, 2021).

However, our research shows that an ability to control procrastination depends more on personality traits (such as conscientiousness, agreeableness, and extraversion) than on improvement of executive functions linked to the maturation of the frontal lobes (see also Kim et al., 2017; Lee et al., 2006). It is in contrast to the findings of Rabin et al. (2011), but this study also involved university students. The strongest negative predictors of procrastination are age in combination with personality traits such as extraversion, agreeableness, and conscientiousness. The higher the value of these traits was in the older group (15-17 years), the lower was the procrastination rate. In the pandemic era, participation in online classes required students to have the ability to work systematically (conscientiousness), to be open to others and willing to cooperate (extraversion), and the ability to accept situations (agreeableness). These traits can help deal with procrastination tendencies.

LIMITATIONS

The number of subjects was limited; therefore, it would be worthwhile to perform further studies with larger and more diverse groups of students. As men-

tioned above, research on groups of more diverse cultures might reveal other determinants of procrastination. Also, there is a need for further studies on youth since, as a rule, studies concern adults (e.g., Ferrari, 2020; Mann, 2016; Safiye & Vukčević, 2020; Steel, 2007; Wypych et al., 2018; Yurtseven & Akpur, 2018). Also, including additional variables, such as coping with stress, a sense of locus of control, or seeking support, might help understand factors underlying a tendency to postpone duties. There is a need for a better understanding of procrastination to overcome its negative consequences. Moreover, procrastination behaviors that are acquired in youth and further enhanced by isolation can hinder the ability to accomplish future developmental tasks.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available in the OFS repository at <https://osf.io/qc5ak>.

Supplementary materials are available on journal's website.

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