



Revista Latinoamericana de Psicología

<https://revistalatinoamericanadepsicologia.konradlorenz.edu.co/>



ORIGINAL

Why gritty students procrastinate less? The mediating role of self-efficacy

Ana Paula Porto Noronha^a , Leandro S. Almeida^{b,*} , Lucila Moraes Cardoso^c ,
Eugénia Ribeiro^b , Caroline Tozzi Reppold^d , Joana R. Casanova^b , Ligia De Santis^a

^a Universidade São Francisco, Brasil

^b Universidade do Minho, Portugal

^c Universidade Estadual do Ceará, Brasil

^d Universidade Federal de Ciências da Saúde de Porto Alegre, Brasil

Received 7 November 2025; accepted 8 May 2026

Abstract | Introduction: Procrastination is the intentional delay in completing tasks despite awareness of the negative consequences. It is common in higher education and has been associated with academic failure among students. **Method:** The present study analysed the role of self-efficacy in the relationship between grit (consistency of interests and perseverance of effort) and two dimensions of the procrastination scale (activity postponement and academic self-regulation). The sample consisted of 509 Portuguese university students aged 18 to 58 years ($M = 21.61$, $SD = 5.470$), including 288 (56.6%) women. **Results:** A mediation model analysis showed that higher grit was associated with lower procrastination and higher academic task regulation. The analysis also revealed a partial mediation effect of self-efficacy in the relationship between grit and self-regulation, but this mediating effect was not found in the relationship with task procrastination. **Conclusions:** These findings suggest that grit and self-efficacy are complementary in explaining self-regulation but may be redundant in explaining procrastination. This justifies further studies to better understand the interaction between grit and self-efficacy in explaining the quality of learning and academic success in higher education.

Keywords: Higher education, procrastination, grit, self-efficacy, academic success

© 2026 Fundación Universitaria Konrad Lorenz. This is an open access article under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

¿Por qué los estudiantes con más “grit” procrastinan menos? El papel mediador de la autoeficacia

Resumen | Introducción: La procrastinación se define como el aplazamiento intencional de la realización de tareas, incluso con conocimiento de sus consecuencias negativas. Este fenómeno, frecuente en la educación superior, se ha asociado con el fracaso académico del alumnado. **Método:** Este estudio, realizado con una muestra de 509 estudiantes portugueses de educación superior, de los cuales 288 (56.6 %) eran mujeres, con edades comprendidas entre los 18 y los 58 años ($M = 21.61$, $DT = 5.47$), analizó el papel de la autoeficacia en la relación entre la *grit* (consistencia en los intereses y constancia en el esfuerzo) y las dos dimensiones (aplazamiento de actividades y autorregulación académica) de la escala de procrastinación utilizada. **Resultados:** Mediante el análisis de un modelo de mediación, se halló que mayores niveles de *grit* se asocian con menores niveles de aplazamiento y mayores niveles de autorregulación de las tareas académicas. El análisis también mostró un efecto mediador parcial de la autoeficacia en la relación entre la *grit* y la autorregulación, efecto que no se observó en la relación con la procrastinación de tareas. **Conclusiones:** Estos resultados sugieren que la *grit* y la autoeficacia

* Corresponding author.
E-mail: leandro@psi.uminho.pt

<https://doi.org/10.14349/rlp.2026.v58.3>

0120-0534/© 2026 Fundación Universitaria Konrad Lorenz. This is an open access article under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

se complementan para explicar la autorregulación, pero podrían ser redundantes para explicar la procrastinación, lo que justifica la realización de estudios adicionales para profundizar en la interacción entre ambas y sus contribuciones para la calidad del aprendizaje y el éxito académico en la educación superior.

Palabras clave: Educación superior, procrastinación, *grit*, autoeficacia, éxito académico

© 2026 Fundación Universitaria Konrad Lorenz. Este es un artículo Open Access bajo la licencia CC BY-NC-ND (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

The phenomenon of procrastination in higher education has been the subject of increasing research. Procrastinating behaviours are common amongst college students in the context of learning and assessment activities, and such attitudes and behaviours have a negative impact on academic achievement (García-Ros et al., 2023; Kooren et al., 2024; Muñoz-Olano & Hurtado-Parrado, 2017). This is why it is important to analyse the factors associated with procrastination in order to identify suitable intervention strategies.

Academic procrastination is defined as an intentional trait or tendency to put off completing previously planned tasks (Balkis & Duru, 2016; Steel, 2007; van Erde, 2003). It tends to be greater when students find tasks less enjoyable, more demanding, or more difficult (Ackerman & Gross, 2005; Pychyl & Flett, 2012). Procrastination occurs even when the individual is aware that this delay is likely to produce negative consequences (Wang et al., 2021). When students continually put off academic activities, such as studying for exams or submitting assignments, those activities may end up never being completed (Zohar et al., 2019), leading to students feeling guilt and anxiety, or lower perceptions of self-efficacy and well-being (Araya-Castillo et al., 2023; Codina et al., 2024; Muñoz-Olano & Hurtado-Parrado, 2017; van Erde, 2003).

In academic terms, procrastination may be associated with students' lower levels of self-regulation, or with impulsivity, anxiety, or perfectionism (Grunschel et al., 2018; Rebetez et al., 2018; Sirois & Pychyl, 2013), and it is important to differentiate among these situations in order to identify specific ways of supporting students. Lack of motivation, fear of failure, poor time management, or boredom with tasks can lead to procrastination. These tend to be associated with feelings of low self-efficacy or difficulties in regulating anxiety, frustration, or boredom. Procrastination is an attempt to reduce stress and pressure, but it is ultimately self-reinforcing and leads to more of the same behaviours. Students who do not think they can successfully complete academic tasks are more likely to put off starting or completing those tasks and therefore perform poorly academically (Kooren et al., 2024; Setayeshi-Azhari, 2019). Additionally, procrastination tends to occur when students have not clearly defined or internalised their academic goals (Muñoz-Olano & Hurtado-Parrado, 2017).

There is a distinct situation associated with procrastination and students' perfectionist attitudes. In this case, students tend to be highly motivated and competent. However, dissatisfaction — which is not always healthy — with their performance or with the quality of their work can stop them from completing it within the expected time frame. Maladaptive perfectionism is

often associated with high levels of self-criticism, cognitive rumination, and the manifestation of counter-productive behaviours, over-preparing so that nothing fails, contributing to tasks and academic commitments being put off (Rosa & Keegan, 2024). While perfectionism is one of the personality factors that can lead to academic procrastination, different types of perfectionism, such as high self-imposed standards or the feeling that others expect perfection, have a greater or lesser impact on how well students are able to regulate themselves (Kljajic & Gaudreau, 2023).

Research in this area indicates that procrastination is a common behaviour amongst college students in different countries (Balkis & Duru, 2016; Codina et al., 2024; Geara & Teixeira, 2017; Geara et al., 2019; Rad et al., 2025; Schouwenburg, 2004). Along with the high rate of occurrence, this construct is important because of its association with poor academic performance (Kim & Seo, 2015; Silva et al., 2020), problems related to health and well-being (Scent & Boes, 2014; Soares et al., 2020), and higher levels of anxiety in daily life (García-Ros et al., 2023; Klingsieck, 2013). In addition, some students may resort to unethical behaviour to overcome the negative consequences of procrastination, such as lying, plagiarism, falsifying data, or copying work (Patrzek et al., 2015). These behaviours increase feelings of maladjustment and can trigger negative emotions, for example, feeling that they do not deserve that place at the university, aversion, fear, and guilt, feeding back into avoidance behaviours and putting off academic tasks (Ackerman & Gross, 2005; Afzal & Jami, 2018; Maftai et al., 2021; Muñoz-Olano & Hurtado-Parrado, 2017; Procee et al., 2013).

Although in the short term, procrastination may seem like an appropriate emotional regulation strategy to avoid unpleasant situations or feelings (Balkis & Duru, 2016; Blunt & Pychyl, 2000; Gouveia et al., 2017), in the long term, it becomes harmful. The pattern of avoidance or postponement behaviour undermines well-being, self-efficacy, and academic performance, while also increasing test anxiety, academic stress, low self-esteem, and symptoms of depressed mood (Kooren et al., 2024). In fact, research tends to show that consolidating procrastinating attitudes and behaviours produces subjective discomfort, stress, frustration, and guilt (Araya-Castillo et al., 2023; Muñoz-Olano & Hurtado-Parrado, 2017; Sampaio & Bariani, 2011).

Some authors have suggested that procrastination in academia is associated with student dissatisfaction with course activities, which may be linked to aspects of the institution, the course, the teachers, or classmates (Celik & Storme, 2018; Souza & Reinert, 2010). Students' frustration in relation to their expectations and

goals leads to less involvement in academic activities, which can result in feelings of anxiety and anger, as well as reinforcing procrastinating behaviours (Rad et al., 2025; Rahimi et al., 2023; Soares et al., 2020). Considering the satisfaction of basic psychological needs (autonomy, competence, and a sense of relationship/bond with others), lower feelings of control and competence are associated with a greater likelihood of procrastination behaviours (Codina et al., 2024).

Some research has also linked procrastination to personality variables. Students with high levels of neuroticism and impulsivity are more prone to procrastination, as are those with low levels of conscientiousness, self-discipline, and self-regulation (Wang et al., 2021). Difficulties with self-regulation, expressed through impulsivity, disorganisation, and difficulty with emotional control, are central to the emergence and continuation of procrastination behaviour (Wang et al., 2021), and can be identified as inversely correlated variables. A correlation with extroversion has also been identified (Kooren et al., 2024), suggesting that students with high extroversion are more likely to actively procrastinate, favouring involvement in stimulating activities and putting off academic tasks to the last minute (Shaw & Choi, 2022). Similarly, procrastination behaviour is more common among students who describe their past negatively or their present as fatalistic, whereas the opposite is true for students who are committed to their projects and more future-oriented (Codina et al., 2024). Research also highlights the mediating effect of self-efficacy on levels of procrastination (Rad et al., 2025; Tian et al., 2024), suggesting that strengthening personal beliefs of competence and efficacy may be a strategy for reducing student procrastination. In this regard, developing grit as a personality trait, defined by students' passion or determination towards their goals (Duckworth et al., 2007; Noronha et al., 2024), can also be inferred as a strategy to reduce procrastination in an academic context (Muñoz-Olano & Hurtado-Parrado, 2017).

There are various scales for assessing procrastination. For example, the General Procrastination Scale (Lay, 1986) assesses students' general tendency to delay completing and submitting their academic assignments, while the Academic Procrastination Questionnaire (Solomon & Rothblum, 1984) assesses procrastination in specific tasks, such as preparing assignments, studying for exams, and writing reports (Rad et al., 2025). In Brazil and Portugal, some scales include procrastination as part of a broad set of self-defeating learning strategies used by university students (Miranda et al., 2025; Vargas et al., 2018). In the present study, we used the Academic Procrastination Scale (EPA; Busko, 1998), which has been validated for several Portuguese- and Spanish-speaking countries (Barraza-Macías & Barraza-Nevárez, 2018; Domínguez-Lara et al., 2014; Moura et al., 2021). This scale includes items assessing postponing academic activities and items assessing academic self-regulation, i.e., two inversely correlated dimensions.

The present study aimed to assess the combined impact of the two dimensions of grit (consistency of interests and perseverance of effort) on students' procrastination (postponement) and self-regulation behaviours

related to their academic tasks. In addition, we also sought to determine whether students' levels of self-efficacy could mediate that impact.

Method

Design

This study employed a cross-sectional correlational design to examine the associations between the two dimensions of grit (consistency of interests and perseverance of effort) and students' procrastination and self-regulated learning behaviours in a convenience sample of higher education students, and to test the mediating role of academic self-efficacy in these associations.

Participants

The study included 509 university students from two Portuguese public institutions based on convenience sampling, although efforts were made to include students from a diverse range of undergraduate programmes. Just over half (288; 56.6%) were women, 210 (41.3%) were men, 8 (1.6%) preferred not to disclose their gender, and 3 (0.6%) were other. Their ages ranged from 18 to 58 years ($M = 21.61$, $SD = 5.470$). The students were studying a variety of courses, with 132 (25.9%) undertaking social sciences and humanities, 93 (18.3%) economics and law, 284 (55.8%) science and engineering. They were in the 2nd year (53.8%) or 3rd year (46.2%) of their graduation courses. Regarding parental educational attainment, 211 (41.5%) had at least one parent who had completed higher education, 154 (30.3%) had at least one parent with secondary education, and 144 (28.3%) had both parents with basic education (up to 9 years of schooling). Most of the students (415; 81.5%) did not do any paid work, while 94 (18.5%) had a job, even if part-time. Just over a third of the students (196; 38.5%) reported receiving government support (in the form of grants) for their academic expenses, compared to 313 (61.5%) who did not.

Instruments

Grit Assessment Scale: International Version in Portuguese (EAGrit-LP; Noronha & Almeida, 2022). In line with research in area, this scale was constructed and validated in Brazil and Portugal to assess two factors: Consistency of Interests (CI) and Perseverance of Effort (PE), which indicate grit. It comprises 12 items, six for each factor, with accuracy indices of $\alpha = 0.85$ (CI) and $\alpha = 0.86$ (PE), and invariance of dimensional structure in Brazil and Portugal (Noronha et al., 2024). Responses are given on a Likert-type scale, ranging from 1 (strongly disagree) to 4 (strongly agree; Noronha et al., 2024).

Self-Efficacy Scale in Higher Education (AEFS; Polydoro & Guerreiro-Casanova, 2010). Created to identify self-efficacy in higher education students, this scale has five dimensions: Academic self-efficacy, which assesses students' perceptions of their confidence in their ability to learn, demonstrate and apply course content (9 items, $\alpha = 0.88$); Self-efficacy in training regulation, which considers goal setting and planning (7 items,

$\alpha = 0.87$); Self-efficacy in proactive actions, which addresses the use of educational opportunities (7 items, $\alpha = 0.85$); Self-efficacy in social interaction, which deals with interaction with peers and teachers (7 items, $\alpha = 0.80$); and Self-efficacy in academic management, which considers planning and meeting deadlines in relation to academic activities (4 items, $\alpha = 0.80$). Students express how “capable they feel in...” the situations described in the 34 items on a 10-point Likert scale, from 1 (not very) to 10 (very). The present study only considered items from the Academic Self-Efficacy dimension to avoid students’ fatigue in their answers throughout one long assessment protocol.

Academic Procrastination Scale for University Students (EPA; Moura et al., 2021). This is a Portuguese-language version of the Academic Procrastination Scale (EPA; Busko, 1998), consisting of 12 items with a Likert response format. This version was analysed by a small group of students from a public university in northern Portugal, who suggested several changes to its content, including the elimination of item 10, “I try to motivate myself to keep up with my work,” as this can apply to students who procrastinate or not. Thus, in the present study, the scale consisted of the remaining 11 items, assessing two contrasting variables: postponing activities (3 items) and academic self-regulation (8 items), based on the respondents’ experiences over the previous 12 months. Responses to the items are made on a five-point Likert scale, ranging from 1 (never) to 5 (always).

Sociodemographic questionnaire. The authors created a specific questionnaire to characterise the sample in sociodemographic terms. It consisted of questions about gender identification, age, chosen course, whether it was the first choice and whether it was the first degree, the year/semester of enrolment, whether the student worked, parents’ educational attainment, self-perception of academic performance, average academic performance, and utilisation of the university’s institutional resources. These variables have been included more to perceive sample diversity than for inclusion on statistical analysis.

Procedures

The project was approved by the Ethics Committee for Research in Social Sciences and Humanities at the University of Minho, reference CEICSH 007/2025. Data collection took place in courses across various disciplines, including social sciences and humanities, economics and law, as well as science and technology subjects. The researchers obtained consent from course directors and, where consent was given, visited classrooms to share a link, allowing students to participate in the study online. By following the link, participants were presented with an informed consent form, which outlined the conditions for participation, the voluntary nature of the study, and the fact that they were free to leave the study at any time. After providing informed consent, they completed the sociodemographic questionnaire and the instruments described above.

Data analysis

The model presented in Figure 1 was tested using a partially latent Structural Equation Modelling (SEM) with aggregated indicators. In that model, self-efficacy mediates the relationship between grit and the two variables of the procrastination scale. The latent construct of grit was specified using two observed composite indicators (consistency of interests and perseverance of effort), and academic self-efficacy was included as a mediator of the relationship between grit and two academic procrastination outcomes (postponing activities and academic self-regulation). The two outcome variables were allowed to covary at the residual level.

The analyses were conducted using the Maximum Likelihood (ML) estimator, which is appropriate for continuous variables. The adequacy of this estimator was supported by acceptable skewness (Sk) and kurtosis (Ku) values, well within the recommended thresholds ($|Sk| < 2$; $|Ku| < 7$; Kline, 2016). Furthermore, indirect effects were tested using a bootstrap procedure with 5,000 resamples, which provides more accurate bias-corrected confidence interval estimates of mediation effects by not assuming normality of the sampling distribution of indirect effects. Statistical significance was determined based on 95% bootstrap confidence intervals and a significance level of $p < .05$ (Marôco, 2021).

The fit of the data to the model was assessed using the following fit indices and criteria: RMSEA (Root Mean Square Error of Approximation), with good fit indicated by a value < 0.06 or up to 0.08 , with the upper limit of the confidence interval < 0.10 , CFI (Comparative Fit Index) and TLI (Tucker-Lewis Index) with good fit indicated by values > 0.95 and > 0.90 , respectively (Tabachnick & Fidell, 2019). Both unstandardised (b) and standardised (β) coefficients were reported for the estimated parameters. These statistical analyses were conducted using Mplus software (Muthén & Muthén, 2013), version 7.11, while the descriptive analysis of the results was performed using IBM SPSS software (2024), version 29.0. The obtained values for the fit indices were within the ranges, indicating a good model fit.

Results

Before testing the theoretical model of the hypothesised relationships between the variables, descriptive statistics were calculated. Table 1 shows the distribution of the students’ results in the variables. Maximum and minimum values are shown, along with the mean, standard deviation, and coefficients for asymmetry and kurtosis.

The results for all scales ranged between a minimum and maximum value determined by the number of items, reflecting a good dispersion of responses from students. The mean scores were above the midpoint of the theoretical distribution of results, indicating that self-assessments agreed more often than they disagreed with the statements (even in the postponement dimension of the procrastination scale). The values for standard deviation, asymmetry, and kurtosis suggest good dispersion of results. Values of asymmetry and kurtosis lower than 1.0 suggest a Gaussian distribution.

Table 1. Descriptive analysis of results in the scales used

Variables	Min.-Max	M	SD	Asymmetry	Kurtosis
Grit_CI	4 - 20	14.36	3.47	-.473	.015
Grit_PE	4 - 20	15.81	3.09	-.936	1.168
Grit_General	8 - 40	30.17	5.87	-.695	.763
Academic Self-efficacy	9 - 90	65.67	12.03	-.892	1.915
Postponement	3 - 15	9.50	3.02	-.249	-.532
Self-regulation	8 - 40	28.06	5.66	-.356	.262

Note. Grit_CI = Consistency of Interest factor; Grit_PE = Perseverance of Effort factor; Grit_General = General factor.

Analysing the relationships between the variables (model shown in Figure 1), the total effect of grit on the postponement dimension in the procrastination scale (Postponement) was significant ($\beta = -0.346$, $b = -0.438$, $p < 0.001$, 95% CI = [-0.619, -0.283]), but negative. For academic self-regulation (Self-regulation), the total effect of grit was also significant ($\beta = 0.613$, $b = 1.454$, $p < 0.001$, 95% CI = [1.208, 1.724]) and positive. This indicates that higher levels of grit are associated with less student procrastination and more self-regulation behaviours when doing academic tasks.

The direct effect (predictor on outcome, with the insertion of the mediator) of Grit on Postponement remained significant ($\beta = -0.354$, $b = -0.449$, $p < 0.001$, 95% CI = [-0.629, -0.296]). The coefficient remained virtually unchanged in relation to the total effect. As the indirect effect for this outcome was not significant ($\beta = 0.008$, $b = 0.011$, $p = 0.784$, 95% CI = [-0.062, 0.093]), it suggests the absence of mediation in this path. For Self-regulation,

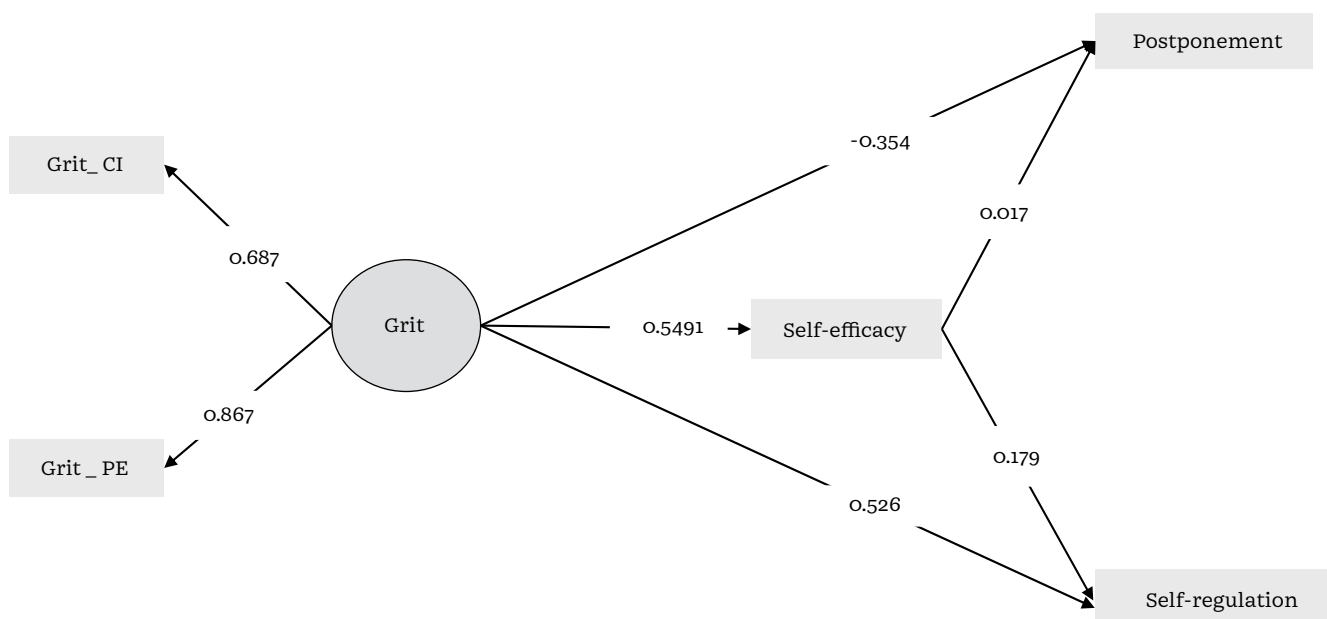
the direct effect of Grit ($\beta = 0.526$, $b = 1.246$, $p < 0.001$, 95% CI = [0.981, 1.569]) remained significant but smaller, and the indirect effect was also significant ($\beta = 0.088$, $b = 0.208$, $p = 0.001$, 95% CI = [0.087, 0.332]), suggesting partial mediation.

The model explained 12.0% of the variance in the Procrastination variable and 40.0% of the variance in Self-Regulation. The overall fit indices indicated that the model fit the data adequately ($\chi^2 = 3.068$, $df = 2$, $p = 0.216$; RMSEA = 0.032, CFI = 0.998, TLI = 0.992), suggesting that the theoretical structure tested was compatible with the observed data.

Discussion

The impact of procrastination in the context of learning has been the subject of research, mainly due to its association with academic failure rates (García-Ros et al., 2023; Kooren et al., 2024) and students' feelings of guilt, anxiety, lower perceptions of self-efficacy, and poorer well-being (Araya-Castillo et al., 2023; Codina et al., 2024; Muñoz-Olano & Hurtado-Parrado, 2017; Rad et al., 2025; van Eerde, 2003). In the present study, we examined whether academic self-efficacy mediated the relationship between Grit (a latent factor made up of Consistency of interests and Perseverance of effort) and two variables assessed on the procrastination scale used: Postponing activities and Academic self-regulation.

The results show that higher levels of Grit were associated with higher levels of Self-regulation and lower levels of Postponement. This is consistent with expectations, considering that grit is understood as a personality trait referring to the ability to maintain effort and interest in projects that take time to complete (Duckworth et al., 2007; Noronha et al., 2024), while procrast-

Figure 1. Mediation model investigated

Note. Grit_CI = Consistency of Interest factor; Grit_PE = Perseverance of Effort factor; Self-efficacy = Academic self-efficacy.

tionation involves putting things off until later, doing other activities to the detriment of the more urgent task (Schouwenburg, 2004).

Examining the possible mediating effect of self-efficacy in these relationships, the results suggest no mediation in the relationship between Grit and Procrastination, but rather partial mediation, i.e., self-efficacy is a factor that matters, in the relationship between Grit and Self-regulation. In this regard, Grit (consistency of interests and Perseverance of effort) may be sufficient to explain procrastination behaviours (postponing academic tasks), while to explain student self-regulation it is equally important to know students' levels of self-efficacy.

This difference suggests that future research should combine the interaction of grit and self-efficacy in the context of procrastination or task postponement behaviours. The importance of personal perceptions or beliefs about competence and efficacy in students' learning quality and academic success is well-documented and is negatively associated with procrastination or postponing academic tasks (Balkis & Duru, 2016; Liu et al., 2020; Rad et al., 2025). Students with low self-efficacy perceptions have greater difficulty maintaining motivation and self-control when engaged in tasks and are more likely to procrastinate. The inclusion of measures of grit in this relationship may provide an alternative explanation for procrastination behaviours, aligning with studies on the importance of clear academic goals in reducing procrastination levels (Muñoz-Olano & Hurtado-Parrado, 2017). In this regard, grit and self-efficacy can be understood as student characteristics that act as protective factors against procrastination, helping students to organise their work, regulate their engagement and learning strategies, and persist in the face of difficulties (Attia & Abdelwahid, 2020).

Final considerations

Because grit comprises the dimensions of consistency of interest and persistence of effort, it is a personality—and motivation-related construct that is important for explaining students' learning quality and academic success. In this study, student grit was positively associated with self-regulation behaviours and negatively associated with procrastination behaviours related to academic tasks. Students' beliefs about their academic self-efficacy played a mediating role in explaining self-regulation, but this was not the case for procrastination. This situation warrants further research in future studies with new objectives and samples to better understand how grit and self-efficacy coexist and how their interaction can help explain the quality of learning and academic success in higher education, with a view to reducing the problem of procrastination at university. In this line of research, mixed-method studies may complement the present study and help to better understand the regulatory mechanisms of procrastination. By triangulating data from self-report questionnaires and students' focus group interviews, future studies may explore students' perspectives on their current experiences of procrastination, the processes that prevent or promote procrastination, and clarify

how these processes relate to grit, self-efficacy, or other emerging constructs.

Acknowledgements

This work was partially conducted at CIPsi - Psychology Research Centre, School of Psychology (FCT; UID/01662) and CIED - Research Centre on Education (FCT; UIDB/01661/2020; UIDP/01661/2020), from the University of Minho, supported by the Portuguese Foundation for Science and Technology, through national funds of FCT/MCTES-PT, through national funds.

References

- Ackerman, D. S., & Gross, B. L. (2005). My instructor made me do it: Task characteristics of procrastination. *Journal of Marketing Education*, 27(1), 5-13. <https://doi.org/c94wk7>
- Afzal, S., & Jami, H. (2018). Prevalence of academic procrastination and reasons for academic procrastination in university students. *Journal of Behavioural Sciences*, 28(1), 51-69. <https://bit.ly/4kohNUT>
- Araya-Castillo, L., Burgos, M., González, P., Rivera, Y., Barrientos, N., Yáñez Jara, V., Ganga-Contreras, F., & Sáez, W. (2023). Procrastination in University Students: A proposal of a theoretical model. *Behavioral Sciences*, 13(2), 128. <https://doi.org/10.3390/bs13020128>
- Attia, N. M., & Abdelwahid, A. E. A. (2020). Grit, self-regulation and self-efficacy as predictors of academic procrastination among nursing students. *International Journal of Nursing Education*, 12(1), 130-135. <https://doi.org/10.37506/ijone.v12i1.3720>
- 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, 439-459. <https://doi.org/10.1007/s10212-015-0266-5>
- Barraza-Macias, A., & Barraza-Nevárez, S. (2018). Evidence of validity and reliability of the scale of academic procrastination in a Mexican student population. *Revista de Psicología y Ciencias del Comportamiento de la Unidad Académica de Ciencias Jurídicas y Sociales*, 9(1), 75-99.
- Blunt, A. K., & Pychyl, T. A. (2000). Task aversiveness and procrastination: A multi-dimensional approach to task aversiveness across stages of personal projects. *Personality and Individual Differences*, 28(1), 153-167. <https://doi.org/dt98wd>
- Busko, D. A. (1998). *Causes and consequences of perfectionism and procrastination: A structural equation model*. [Tesis de maestría no publicada. Guelph, Ontario: University of Guelph]. <https://atrium.lib.uoguelph.ca/server/api/core/bitstreams/428752c5-0d69-4afe-9264-f59e19cdb757/content>
- Celik, P., & Storme, M. (2018). Trait emotional intelligence predicts academic satisfaction through career adaptability. *Journal of Career Assessment*, 26(4), 666-677. <https://doi.org/gcz62x>
- Codina, N., Castillo, I., Pestana, J. V., & Valenzuela, R. (2024). Time perspectives and procrastination in university students: Exploring the moderating role of basic psychological need satisfaction. *BMC Psychology*, 12, article 5. <https://doi.org/10.1186/s40359-023-01494-8>
- Dominguez-Lara, S. A., Villegas, G., & Centeno, S. B. (2014). Procrastinación académica: validación de una escala en una muestra de estudiantes de una universidad privada. *Libre-rabit*, 20(2), 293-304.
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087-1101. <https://doi.org/10.1037/0022-3514.92.6.1087>

- García-Ros, R., Pérez-González, F., Tomás, J. M., & Sancho, P. (2023). Effects of self-regulated learning and procrastination on academic stress, subjective well-being, and academic achievement in secondary education. *Current Psychology*, 42, 26602-26616. <https://doi.org/10.1007/s12144-022-03759-8>
- Geara, G. B., & Teixeira, M. A. P. (2017). Questionário de Procrastinação Acadêmica - Consequências Negativas: Propriedades psicométricas e evidências de validade. *Avaliação Psicológica*, 16(1), 59-69. <https://doi.org/10.15689/ap.2017.1601.07>
- Geara, G. B., Nunes, C. A. M., Hauck-Filho, N., & Teixeira, M. A. P. (2019). Development and psychometric analysis of the brief inventory of academic procrastination. *Trends in Psychology*, 27(3), 693-706. <https://doi.org/10.9788/tp2019.3-07>
- Gouveia, M. A., Porfírio, F., Silva, J. M., Ocalxuk, L., & Ingberman, Y. K. (2017). Procedimento de bloqueio de respostas de esquivas e aumento da tolerância emocional. *Revista Brasileira de Terapia Comportamental e Cognitiva*, 19(2), 24-41. <https://doi.org/10.31505/rbtcc.v19i2.1031>
- Grunschel, C., Patrzek, J., Klingsieck, K. B., & Fries, S. (2018). "I'll stop procrastinating now!" Fostering specific processes of self-regulated learning to reduce academic procrastination. *Journal of Prevention & Intervention in the Community*, 46(2), 143-157. <https://doi.org/10.1080/10852352.2016.1198166>
- IBM Corp. (2024). *IBM SPSS Statistics* (Version 29.0) [Software]. IBM Corp.
- Kim, K. R., & Seo, E. H. (2015). The relationship between procrastination and academic performance: A meta-analysis. *Personality and Individual Differences*, 82, 26-33. <https://doi.org/10.1016/j.paid.2015.02.038>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.
- Klingsieck, K. (2013). 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>
- Kljajic, K., & Gaudreau, P. (2023). Examining the association between procrastination and decreases in academic achievement during the transition from high school to university: A piecewise growth model. *European Journal of Psychology Education*, 38, 1011-1030. <https://doi.org/10.1007/s10212-022-00638-5>
- Kooren, N. S., Nooijen, C. V., & Paas, F. (2024). The influence of active and passive procrastination on academic performance: A meta-analysis. *Education Science*, 14(3), 323. <https://doi.org/10.3390/educsci14030323>
- Lay, C. H. (1986). At last, my research article on procrastination. *Journal of Research in Personality*, 20(4), 474-495. [https://doi.org/10.1016/0092-6566\(86\)90127-3](https://doi.org/10.1016/0092-6566(86)90127-3)
- Liu, G., Cheng, G., Hu, J., Pan, Y., & Zhao, S. (2020). Academic self-efficacy and postgraduate procrastination: a moderated mediation model. *Frontiers in Psychology*, 11, 1-9. <https://doi.org/10.3389/fpsyg.2020.01752>
- Maftei, A., Dumitriu, A., & Holman, A.-C. (2021). "They will discover I'm a fraud!" The impostor syndrome among psychology students. *Studia Psychologica*, 63(4), 337-351. <https://doi.org/n7bt>
- Marôco, J. (2021). *Análise de equações estruturais: Fundamentos teóricos, software & aplicações* (3.ª ed.). ReportNumber.
- Miranda, L. C., Boruchovitch, E., & Almeida, L. S. (2025). Estratégias autoprejudiciais à aprendizagem: Procedimentos de avaliação e medidas de intervenção. In Katya L. Oliveira, Leandro S. Almeida, Acácia A. A. Santos, & Evely Boruchovitch (Eds.), *Compêndio de Psicologia e Educação: Avaliação, Prática e Transculturalidade* (pp. 429-440). Editoria Vozes.
- Moura, G. B., Paiva, T. T., & Domínguez-Lara, S. (2021). Validação da estrutura fatorial da Escala de Procrastinação em estudantes universitários brasileiros. *Psicología, Conocimiento y Sociedad*, 11(2), 57-77. <https://doi.org/10.26864/PCS.v11.n2.3>
- Muñoz-Olano, J. F., & Hurtado-Parrado, C. (2017). Effects of goal clarification on impulsivity and academic procrastination of college students. *Revista Latinoamericana de Psicología*, 49(3), 173-181. <https://doi.org/10.1016/j.rlp.2017.03.001>
- Muthén, L. K., & Muthén, B. O. (2013). *Mplus (Version 7.11)* [Computer software]. Muthén & Muthén.
- Noronha, A. P. P., & Almeida, L. S. (2022). Construção e estudos psicométricos da Escala de Avaliação da Garra: Versão Internacional em Língua Portuguesa (EAGrit-LP). *Psicologia, Educação e Cultura*, 26, 8-23.
- Noronha, A. P. P., Almeida, L. S., & Reppold, C. T. (2024). Internal structure and invariance analysis of the EAGrit-LP-R scale for Grit assessment. *International Journal of Testing*, 24(2), 130-144. <https://doi.org/10.1080/15305058.2024.2312105>
- Patrzek, J., Sattler, S., van Veen, F., Grunschel, C., & Fries, S. (2015). Investigating the effect of academic procrastination on the frequency and variety of academic misconduct: A panel study. *Studies in Higher Education*, 40(6), 1014-1029. <https://doi.org/gf9mqd>
- Polydoro, S. J., & Guerreiro-Casanova, D. C. (2010). Escala de auto-eficácia na formação superior: Construção e estudo de validação. *Avaliação Psicológica*, 9(2), 267-278.
- Procee, R., Kamphorst, B., van Wissen, A., & Meyer, J. J. (2013, November). A formal model of procrastination. In *Proceedings of the 25th Benelux Conference on Artificial Intelligence* (pp. 152-159). Delft, Netherlands.
- Pychyl, T. A., & Flett, G. L. (2012). Procrastination and self-regulatory failure: An introduction to the special issue. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 30(4), 203-212. <https://doi.org/ggtqdd>
- Rad, H. F., Bordbar, S., Bahmaei, J., Vejdani, M., & Yusefi, A. R. (2025). Predicting academic procrastination of students based on academic self-efficacy and emotional regulation difficulties. *Scientific Reports*, 15, 3003. <https://doi.org/10.1038/s41598-025-87664-7>
- Rahimi, S., Hall, N. C., & Sticca, F. (2023). Understanding academic procrastination: A longitudinal analysis of procrastination and emotions in undergraduate and graduate students. *Motivation and Emotion*, 47, 554-574. <https://doi.org/nhcq>
- Rebetz, M. M. L., Rochat, L., Barsics, C., & Van der Linden, M. (2018). Procrastination as a self-regulation failure: The role of impulsivity and intrusive thoughts. *Psychological Reports*, 121(1), 26-41. <https://doi.org/gcr45f>
- Rosa, L., & Keegan, E. G. (2024). Implicaciones clínicas del perfeccionismo: Relación entre autocrítica, rumiación y malestar psicológico en estudiantes universitarios. *Revista Brasileira de Terapias Cognitivas*, 20, e20240467. <https://doi.org/10.5935/1808-5687.20240467>
- Sampaio, R. K. N., & Bariani, I. C. D. (2011). Procrastinação acadêmica: Um estudo exploratório. *Estudos Interdisciplinares em Psicologia*, 2(2), 242-262.
- Scent, C. L., & Boes, S. R. (2014). Acceptance and commitment training: A brief intervention to reduce procrastination among college students. *Journal of College Student Psychotherapy*, 28(2), 144-156. <https://doi.org/10.1080/87568225.2014.883887>
- Schouwenburg, H. (2004). Procrastination in academic settings: General introduction. In H. Schouwenburg, C. Lay, P. Timothy & J. Ferrari (Eds.), *Counseling the procrastinator in academic settings* (pp. 3-18). American Psychological Association.
- Setayeshi-Azhari, M. (2019). Procrastination and academic performance: A meta-analysis study. *Journal of Applied Psychology Research*, 10, 115-133. <https://doi.org/10.22059/japr.2019.72624>

- Shaw, J., & Choi, J. (2022). Big Five personality traits predicting active procrastination at work: When self- and supervisor-ratings tell different stories. *Journal of Research in Personality*, 99, 104261. <https://doi.org/10.1016/j.jrp.2022.104261>
- Silva, P. G. N., Machado, M. de O. S., Neves, C. R., Oliveira, L. B. S. de, & Fonsêca, P. N. (2020). Motivação para leitura e variáveis sociodemográficas como preditoras da procrastinação acadêmica. *Psicología, Conocimiento y Sociedad*, 10(1), 142-163. <https://doi.org/10.26864/pcs.v10.n1.7>
- Sirois, F., & Pychyl, T. (2013). Procrastination and the priority of short-term mood regulation: Consequences for future self. *Social and Personality Psychology Compass*, 7(2), 115-127. <https://doi.org/10.1111/spc3.12011>
- Soares, A. K. S., Andrade-Filho, J. A. L., Ribeiro, M. G. C., & Rezende, A. T. (2020). Avaliando o papel da procrastinação acadêmica e bem-estar subjetivo na predição da satisfação com o programa de pós-graduação. *Ciencias Psicológicas*, 14(1), e-2078. <https://doi.org/10.22235/cp.v14i1.2078>
- Solomon, L. J., & Rothblum, E. D. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of Counseling Psychology*, 31(4), 503-509. <https://doi.org/10.1037/0022-0167.31.4.503>
- Souza, S. A. D., & Reinert, J. N. (2010). Avaliação de um curso de ensino superior através da satisfação/insatisfação discente. *Avaliação: Revista da Avaliação da Educação Superior (Campinas)*, 15(1), 159-176. <https://doi.org/10.1590/S1414-40772010000100009>
- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, 133(1), 65-94. <https://doi.org/10.1037/0033-2909.133.1.65>
- Tabachnick, B. G., & Fidell, L. S. (2019). Principal components and factor analysis. In G. B. Tabachnick & L. S. Fidell (Eds.), *Using multivariate statistics* (pp. 476-527). Pearson.
- Tian, Q., Mustapha, S. M., & Min, J. (2024). The mediation effect of academic self-efficacy on academic procrastination, performance, and satisfaction of Chinese Local Technology University undergraduates. *Psychology Research and Behavior Management*, 17, 3779-3798. <https://doi.org/10.2147/PRBM.S479189>
- van Eerde, W. (2003). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences*, 35(6), 1401-1418. <https://doi.org/fdkhhp>
- Vargas, J. G., Miranda, L. C., Boruchovitch, E., & Almeida, L. S. (2018). Validação da escala de estratégias autoprejudiciais: Um estudo com alunos do ensino superior português. *Psicologia, Educação e Cultura*, XXII(1), 348-364. <http://hdl.handle.net/10400.13/2181>
- Wang, Y., Gao, H., Sun, C., Liu, J., & Fan, X. (2021). Academic procrastination in college students: The role of self-leadership. *Personality and Individual Differences*, 178, 110866. <https://doi.org/10.1016/j.paid.2021.110866>
- Zohar, A. H., Shimone, L. P., & Hen, M. (2019). Active and passive procrastination in terms of temperament and character. *PeerJ*, 7, e6988. <https://doi.org/gqhjx3>