ISBN: 978-84-09-25258-9

ACADEMIC PROCRASTINATION: PSYCHOLOGICAL IMPACT AND PREDICTOR ASPECTS UNDER THE SELF-DETERMINATION THEORY

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Abstract

Background: Academic procrastination is a dynamic phenomenon involving personal, behavioral and environmental aspects and is characterized by delaying the beginning or the ending of an academic task, in a purposeful and frequent way. As such, it generates a subjective discomfort associated with negative psychological consequences in students. Very few studies have investigated procrastination within the frame of the self-determination theory, and specifically in the context of basic psychological needs satisfaction. This study aims to explore the relation among academic procrastination, basic psychological needs satisfaction, coping strategies (with a focus on proactive coping), and depression, anxiety and stress**. Methods:** 211 university students with ages between 18 and 44 years (*M* = 24.23; *DP* = 5.72), most of them being females (56.4%), have participated in this transversal study, and fulfilled the Questionnaire of Procrastination in Study, the Basic Psychologic Needs Satisfaction Scale, the Questionnaire of Reactions to Daily Events and the Scale of Anxiety, Depression and Stress-21. **Results:** The correlation analysis verified that academic procrastination has a negative relation with basic psychological needs satisfaction, and proactive coping, and a positive relation with avoidance coping, and with anxiety, depression and stress. A mediation analysis identified proactive coping as a partial mediator of the relation between basic psychological needs satisfaction and procrastination. **Conclusion:** The non-satisfaction of the basic psychological needs in students is related to the usage of less adaptative coping strategies, and seems to prevent the use of more effective proactive strategies. On the other hand, those strategies lead to procrastination, which has a negative psychological impact. As such, an intervention based on the satisfaction of the basic psychological needs in the academic context is considered relevant.

ISBN: 978-84-09-25258-9

Keywords: academic procrastination; basic psychological needs satisfaction; coping strategies; anxiety, depression and stress.

Introduction

Academic procrastination is defined as a phenomenon dependent on the individual will and involving the behavior of systematically transferring, to another point in time, actions, attitudes or relevant compromises, even considering the possibility of an unsatisfactory performance or a negative result, or both (Sampaio & Bariani, 2011). Procrastination is related with negative effects on the academic results as well as its implications to the students` health (Steel & Klingsieck, 2016).

Many investigations have been emphasizing procrastination as a failure of self-regulation (Steel, 2007; Steel & Klingsieck, 2016) and poor planning skills (Rabin, Fogel, & Nutter-Uphan, 2011). Haghbin, McCaffrey and Pychyl (2012) considered that procrastination is a self-determination deficit, facing it as a deficit of behavioral persistence.

The self-determination theory (SDT) is a macro theory of human motivation, personality and optimal functioning (Deci & Ryan, 2000). SDT postulates that a healthy organismic functioning, volitional engagement, higher-quality behavior and mental health are derived from the satisfaction of the three basic psychological needs (Deci & Ryan, 2000).

The need of competence involves understanding how to attain various external and internal outcomes and being efficacious in the performed actions; relatedness involves developing secure and satisfying connections with others in one`s social environment, and autonomy refers to being self-initiating and self-regulating of one`s own action (Deci, Vallerand, Pelletier, & Ryan, 2011). The fulfillment of these needs is essential to support volitional motivation and performance (Deci & Ryan, 2000) and effective coping strategies (Ntoumanis, Edmunds, & Duda, 2009), but if the environment does not support and nurture them, it contributes to negative consequences, as pathology and ill-being (Deci & Ryan, 2000).

The concept of coping by Lazarus and Folkman (1984) pertains to cognitive and behavior efforts aimed at managing specific internal or external requirements considered to exceed personal resources. In contrast to the traditional conceptions of coping, that tend to be reactive, proactive coping is different because it anticipates any

 ISBN: 978-84-09-25258-9

potential stressing situations, instead of reacting to stressing situations that already occurred (Greenglass & Fiksenbaum, 2009). Thus, proactive coping is more forward oriented and a form of goal management (Greenglass & Fiksenbaum, 2009).

This study aims to investigate the pattern of relationships between academic procrastination, basic psychological needs satisfaction (BPNS), a set of coping strategies, and anxiety, depression and stress. Furthermore, we want to identify if the BPNS acts on procrastination in a relation mediated by coping. We hypothesize that academic procrastination will have a negative relation with the BPNS, and with proactive coping, and a positive relation with avoidance coping, and with depression, anxiety and stress.

Method

Participants

The convenience sample is composed of 211 university students with ages between 18 and 44 years old (M = 24. 23; SD = 5.72). The students attain several courses, the majority are females (56.4%) and single (88.2%).

Instruments

*Procrastination in Study Questionnaire***.** This self-report questionnaire was developed by Costa (2007) and has 10 items, distributed in two dimensions: "Procrastination in the daily study", and "Procrastination in studying for tests", with a total Procrastination score. The original validation study used a sample of basic education students and, in order to use this instrument with a university sample, there was an adaptation to the university level in terms of a more appropriate vocabulary to adult students (Sampaio, 2011). In the current study, we used this version, and the internal consistency of the total scale is α = .81.

Basic Psychological Needs Scale. This self-report scale was originally developed by Gagné (2003), and the portuguese adaptation was developed by Sousa, Ribeiro, Palmeira, Teixeira and Silva (2012). It has 21 items, distributed in three dimensions: Competence, Autonomy and Relatedness, with a total Basic Need Satisfaction Total score. In the current study, the internal consistency of the total scale is α = .84.

Proactive Coping Inventory/ Reactions to Daily Events Questionnaire. This self-report scale was developed by Greenglass, Schwarzer, Jakubiec, Fiksenbaum, and Taubert (1999), and the portuguese version is of Marques, Lemos and Greenglass

 ISBN: 978-84-09-25258-9

(2004). It has 55 items, distributed in seven dimensions: Proactive coping, Reflective coping, Strategic planning, Preventive coping, Instrumental support seeking, Emotional support seeking, and Avoidance coping. In the current study, the internal consistency of each subscale is between α.68 and α.84, except for the subscale emotional support, which has an unacceptable value (α =.62) and has been removed from subsequent analysis.

Anxiety, Depression and Stress Scale (DASS – 21). This self-report questionnaire was originally developed by Lovibond and Lovibond (1995), with a portuguese adaption by Pais-Ribeiro, Honrado and Leal (2004). It has 21 items, distributed in three dimensions designed to measure the emotional states of depression, anxiety and stress, and a total Anxiety, Depression and Stress score. In the current study, the internal consistency of the total scale is α = .86.

Procedure

After the approval of the research project by an Ethical and Deontological Commission of the university, and the authorization granted by the directive board of the involved courses, the participants were recruited through a convenience sample method. Informed consent was performed, and data was collected in person, through group applications in the classrooms.

Data analysis

Data were analyzed using Statistical Package for Social Sciences (v.24 SPSS Inc. Chicago, IL). The internal consistency of the instruments was evaluated through the Cronbach's coefficient alpha. Pearson`s correlation coefficients were calculated to assess the relations between the variables of interest. Finally, a mediation analysis was performed, according to Hayes macro process (2013), to test if the proactive coping mediates the relation between BPNS and procrastination, using sociodemographic variables and the total anxiety, depression and stress as covariates.

Results

Correlations coefficients among the variables are presented in Table 1, and we may see that total procrastination shows a negative correlation with the basic psychological needs autonomy and competence, and the total psychological needs

ISBN: 978-84-09-25258-9

satisfaction. It also shows a negative correlation with proactive coping, reflective coping, strategic planning, and preventive coping, and a positive correlation with avoidance coping, and with the total of anxiety, depression and stress.

Total BPNS has a positive correlation with proactive coping, strategic planning, preventive coping and instrumental support seeking, and a negative correlation with avoidance coping. In the same vein, the three specific needs have a negative relation with avoidance, and autonomy and competence also have a positive correlation with proactive coping, strategic planning and preventive coping. All the specific psychological needs, and the total score, have a negative correlation with total of anxiety, depression and stress.

Finally, proactive coping has a negative correlation with the total of anxiety, depression and stress, while avoidance coping, and instrumental coping have a positive correlation with these emotional features.

 ISBN: 978-84-09-25258-9

Table 1

Pearson´s correlation coefficients between procrastination, basic psychological needs satisfaction, coping strategies, and anxiety, depression and stress total

	1	2	3	4	5	6	7	8	9	10	11	12
1. PRO-T	-											
2. BPNS-A	-.32**	-										
3. BPNS-C	-.48**	.59**	-									
4. BPNS-R	-.04	.45**	.34**	-								
5. BPNS-T	-.35**	.84**	.82**	.74**	-							
6. PRO-C	-.42**	.44**	.54**	.20**	.49**	-						
7. REFL-C	-.26**	.12	.09	-.08	.05	.36**	-					
8. STRA-C	-.34**	.25**	.28**	.01	.21**	.32**	.43**	-				
9.PREV-C	-.41**	.23**	.19**	-.05	.15*	.43**	.72**	.48**	-			
10.INST-C	-.09	.12	.02	.28**	.17*	.11	.07	.13	.08	-		
11.AV-C	.26**	-.23**	-.39**	-.18**	-.34**	-.42**	.06	-.04	-.05	.09	-	
12. ADS-T	.25**	-.38**	-.39**	-.26**	-.43**	-.28**	-.02	-.09	-.08	.14*	.23**	-

Note. PRO-T = *Total procrastination*; BPNS-A = *Basic psychological need satisfaction- Autonomy*; BPNS-C = *Basic psychological need satisfaction- Competence*; BPNS-R = *Basic psychological need satisfaction- Relatedness*; BPNS-T= *Basic psychological needs satisfaction- Total;* PRO-C = *Proactive coping*; REFL-C = *Reflective coping*; STRA-C = *Strategic planning*; PREV-C = *Preventive coping*; INST-C = *Instrumental support seeking*; AV-C = *Avoidance coping*; ADS-T = *Anxiety*, *Depression and Stress- Total*.

* $p < .05$, ** $p < .01$

In Figure 1, we may see the mediation model (Hayes, 2013), in which the BPNS is a significant predictor of total procrastination, controlling the mediator variable proactive coping: β = -.47, t (204) = -2.14, p =.033. The Sobel's test found partial mediation in the model, for proactive coping (z= -.3. 17, p= .002). Therefore, the

ISBN: 978-84-09-25258-9

satisfaction of the basic psychological needs is a predictor of the total procrastination, in a relation partly mediated by the proactive coping strategy.

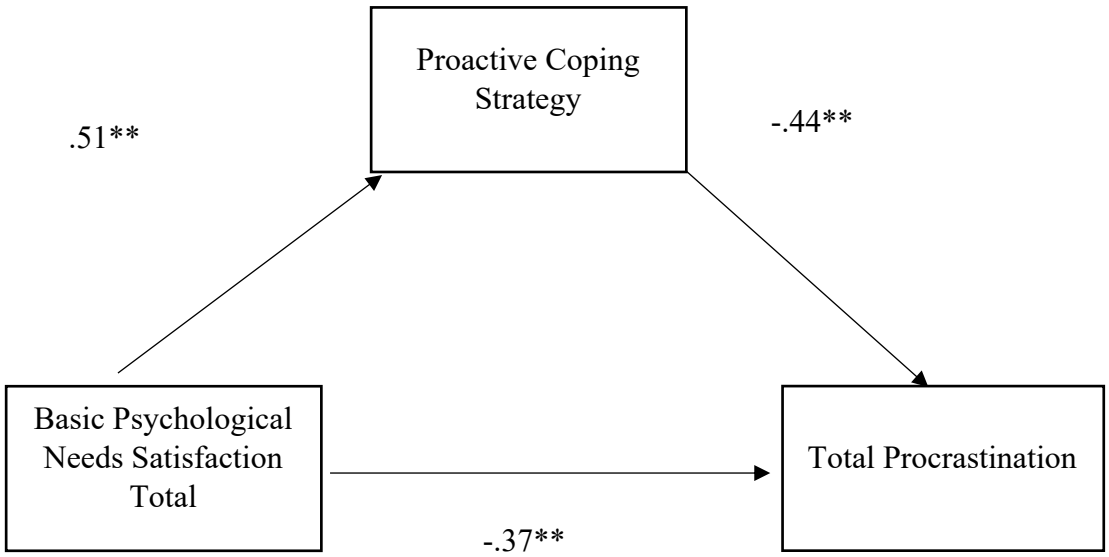

Figure 1. Standardized regression coefficients for the relationship between the total BPNS and total procrastination, mediated by the proactive coping.
**$p < .001$; * $p < .01$

Discussion

Both the total satisfaction of the basic psychological needs, as well as the needs for competence and autonomy, negatively correlated with academic procrastination, which confirmed our hypothesis. Relatedness was the only need that did not show a significant relationship with procrastination, and it has been considered the less central in the individual`s determination and influent on intrinsic motivation, as people often engage in intrinsically motivated behavior in isolation (Deci & Ryan, 2000; Shih, 2019). Overall, the results are congruent with the literature (Cavusoglu & Karatas, 2015; Codina, Valenzuela, Pestana & Gonzalez-Conde, 2018; Haghbin et al., 2012). Competence is a predictor of less academic procrastination, as it provides students with a sense of efficacy at overcoming obstacles that keeps them optimistic facing

ISBN: 978-84-09-25258-9

challenges, and confident to persist in unpleasant tasks, therefore actively engaging in schoolwork rather than procrastinating (Shih, 2019). When learners are autonomous, they will spend their energy studying, and when they are competent, they will make efforts to cope with difficulties in academic work (Niemiec & Ryan, 2009).

Proactive coping was a partial mediator of the relationship between the BPNS and academic procrastination and, relating with other results with some conceptual similarity, proactive coping totally mediated the relationship between self-blame and stress, in university students (Straud, & McNaughton, 2019), and between stress and the engagement with study (Gan, Yang, Zhou, & Zhang, 2007). Proactive coping incorporates a confirmatory and positive approach to dealing with stressors (Greenglass & Fiksenbaum, 2009) in academic life.

Our findings were consistent with the ones that identified a positive correlation between procrastination and avoidance coping (Sirois & Kitner, 2015; Sirois & Pychyl, 2013), and these authors state that avoidance strategies seem to be as a form of short-term mood regulation, but less adaptive into the long term.

The positive relationship between academic procrastination and anxiety, depression and stress is identical to other studies` results (e.g., Rabin et al., 2011; Steel, 2007), confirming that within the academic context, procrastination is related with negative features and it is a trigger off ill-being.

The results of this study must be interpreted taking in consideration some limitations. Being a cross-sectional analysis, prevents the identification of a direct causality between the variables. The sample is rather heterogeneous, in terms of subjects from different academic courses, academic years and age range, and a more homogeneous sample in future studies is recommended. Lastly, the use of self-report instruments may imply socially desirable responses.

The main implication of this study relates to the importance of considering academic procrastination as a result of lower competence and autonomy. Therefore, psychological interventions that help students develop more adaptive coping strategies and improve these psychological needs, would promote higher commitment to learning and well-being. We also suggest a systematic intervention with teachers, to increase their support behaviors towards the BPNS of their students, as this this kind of intervention has shown promising results (Haakma, Janssen, & Minnaert, 2017).

In conclusion, from a SDT perspective, our results show that when students have higher BPNS, they will have a higher tendency to use proactive coping and through it

ISBN: 978-84-09-25258-9

they will have lower academic procrastination, looking for challenges and perceiving academic activities not as stressors, but, as goals to achieve.

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