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Abstract

Procrastination is associated with negative consequences concerning mental health, performance as well as physical and psychological well-being. Procrastination has been found to be an instinctive response to depression, anxiety and stress among college students. The study was conducted to investigate the impact of academic procrastination on psychological burden among students. This quantitative nature of study was completed through correlational research design. Survey was conducted as a method of data collection. Convenient sampling technique was used to select the sample of 251 college students. The collected data were analyzed on SPSS. Inferential statistics was utilized to test hypotheses. Pearson correlation and linear regression analysis was performed. Findings of the study reveal that academic procrastination is significant positive predictor of psychological burden (depression, anxiety and stress) among college students. Moreover, there is positive relationship between academic procrastination, depression, anxiety and stress.

Keywords: Academic procrastination, depression, anxiety, stress

1. Introduction

In academia, procrastination is a well-known, almost commonplace phenomenon. Students often delay tasks and activities inherent to learning and studying, despite knowing that they will be worse off because of the delay (Steel & Klingsieck, 2016). For some students, academic procrastination can be specific to a situation (i.e., state procrastination), for others it takes on features of a habit or a disposition (i.e., trait procrastination). Studies estimate that almost all students engage in procrastination once in a while, while 75% consider themselves habitual procrastinators (Steel, 2007). For almost half of these habitual procrastinators, procrastination is a real and persistent problem (Steel, 2007), and something they would like to tackle (Grunschel & Schopenhauer, 2015). It can be assumed, however, that not all of them seek help due to the self-regulative problems inherent to procrastination, and, even more so, due to feelings of shame associated with procrastination (Giguere et al., 2016).

1.1. Academic Procrastination

The prominent definition of procrastination as “to voluntarily delay an intended course of action despite expecting to be worse off for the delay” (Steel, 2007) reflects two important aspects of the phenomenon. First, procrastination is a post-decisional phenomenon in goal-directed behavior in that an intention (e.g., to study for an exam) has been formed. Second, procrastination is acrat in nature since individuals put off the intended course of action contrary to knowing better. This acrat nature is reflected by feelings such as regret, shame, guilt, worry, and anxiety (e.g., Giguere et al., 2016). Procrastination has been found to be an instinctive response to anxiety, stress, etc. College students must contend with the stress of academic rivalry, difficult interpersonal relationships, and other issues as they progress through an important stage in their personal development. It is important to acknowledge that a delay is not procrastination if it is strategic or results from causes not under the control of the individual (Klingsieck, 2013). Taking these aspects – post-decisional, acrat, and non-strategic – together, suggests that procrastination is a failure in self-regulation (Steel, 2007), this is the most popular conceptualization of procrastination in the literature. In fact, the dispositional, the motivational-volitional, the clinical, and the situational perspective on procrastination can be boiled down to this understanding of procrastination (Klingsieck, 2013). As for students, while academic procrastination is just a little nuisance for some, it entails serious problems for others.

1.2. Relationship between Procrastination, Depression, Anxiety and Stress

Procrastination is associated with negative consequences concerning performance as well as physical and psychological well-being. However, although never a particularly helpful behavior, the relationship with performance is probably not as strong as most would expect. Among students, the correlation with academic achievement is weak, $r_s = -0.13$ to -0.19 (Kim & Seo, 2015), and perhaps not the main reason for why individuals regard procrastination as a problem. Instead, it might be its effects on physical and psychological well-being that eventually makes someone seek professional help (Rozental & Carlbring, 2014). In a qualitative study of 36 students, for instance, the most frequently reported negative consequences were anger, anxiety, feelings of discomfort, shame, sadness, feeling remorse, mental stress, and negative self-concept (Grunschel et al., 2013). Systematic reviews and meta-analyses on the link between procrastination and symptoms of psychiatric conditions have also found a weak but nonetheless clinically meaningful correlation with depression, $r_s = 0.28$ to 0.30 (van Eerde, 2003; Steel, 2007). The same also goes for anxiety, $r = 0.22$ (van Eerde, 2003). Studies investigating the connection between self-report measures in different populations have demonstrated stronger correlations, such as Rozental et al. (2015) in a clinical trial of adults seeking treatment for procrastination ($n = 710$), $r = 0.35$ for depression and $r = 0.42$ for anxiety. Similar results were also obtained by Beutel et al. (2016) in an adult community sample ($n = 2527$), $r = 0.36$ for depression and $r = 0.32$ for anxiety. Although both lower mood and increased unrest can, in themselves, because procrastination, it is assumed that procrastination also creates a downward spiral characterized by negative thoughts and feelings (Rozental & Carlbring, 2014). Apart from depression and anxiety, students generally tend to regard procrastination as something stressful.

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Stead et al. (2010) investigated this association using self-report measures in a sample of students ($n = 200$), demonstrating a weak but nonetheless significant correlation between procrastination and stress. Similar findings were reported by Rozental et al. (2022) for students ($n = 122$), for a sample of community-dwelling adults ($n = 254$), $r_s = 0.13$ to 0.20 . Further, Beutel et al. (2016) found somewhat stronger correlations with stress, $r = 0.39$, as well as with burnout, $r = 0.27$. Stress might also play a role as mediator between procrastination and illness, as proposed by the so-called procrastination-health model implying that procrastination not only leads to more stress, but that the increase in stress in turn leads to many physical issues. Meanwhile, in terms of quality of life and satisfaction with life, procrastination exhibits a weak negative correlation, $r = -0.32$ (Rozental et al., 2014), and $r = -0.35$ (Beutel et al., 2016), meaning that procrastination could take its toll on how one appreciates current circumstances.

However, despite the fact that procrastination might be affecting physical and psychological well-being negatively, it is still unclear when it goes from being a more routine form of postponement to becoming something that warrants support, for instance in the realm of counseling or therapy. The literature suggests that as many as 20% of the adult population could be regarded as “chronic procrastinators” (Specter & Ferrari, 2000), a number that is easily surpassed by the 32% of students that were characterized as “severe, general procrastinators” (Day, 2000). Students are generally considered worse-off when it comes to recurrently and problematically delaying important curricular activities, with more than half of this population stating that they would like to reduce their procrastination (Solomon & Rothblum, 1984). Still, all of these rates rely on arbitrary cutoffs on specific self-report measures, such as exceeding a certain score, or do not define what is meant by procrastination, which may not correspond to something that requires clinical attention (Rozental & Carlbring, 2014).

1.3. Objectives of the Study

- To explore the relationship of academic procrastination, depression, anxiety and stress
- To investigate the impact of academic procrastination on depression, anxiety and stress

1.4. Method

This quantitative nature of study was completed through correlational research design. Survey was conducted as a method of data collection. Convenient sampling technique was used to select the sample of 251 college students.

1.5. Procrastination

In order to differentiate and classify the more severe cases of procrastination, a widely used self-report measure is applied, the Pure Procrastination Scale (PPS), which was originally introduced and validated by Kiser, (2020) and translated to a large number of languages since (Svartdal et al., 2016). The PPS was developed from several other self-report measures, retaining only those items that demonstrated the strongest factor loadings on the core construct of procrastination (i.e., not other forms of delay), hence the name “pure.” The PPS has 12 items, e.g., “I often find myself performing tasks that I had intended to do days before” (item 6), is scored according to a 5-point Likert-scale (1–5), and has an internal consistency in the current study of Cronbach’s $\alpha = 0.92$.

1.6. Anxiety

Anxiety was examined using the Generalized Anxiety Disorder – 7 Items (GAD-7; Spitzer et al., 2006). It consists of seven items concerning the general level of anxiety and worry experienced during the last 2 weeks, and is often used as a screening tool for anxiety disorders, e.g., “Over the last 2 weeks, how often have you been bothered by the following problems: Worrying too much about different thing” (item 3). The GAD-7 is scored on a four-point Likert-scale (0–3), and has an internal consistency in the current study of $\alpha = 0.90$. A score of 5 points indicate mild anxiety, 10 moderate anxiety, and 15 severe anxiety.

1.7. Depression

Depression was assessed by the Patient Health Questionnaire – 9 Items (PHQ-9; Kroenke et al., 2001). It has nine items on depressive symptoms experienced during the last 2 weeks, in accordance with the diagnostic criteria for major depressive disorder (American Psychiatric Association, 2013), e.g., “Over the last 2 weeks, how often have you been bothered by any of the following problems? Little interest or pleasure in doing things” (item 1). The PHQ-9 is scored on a four-point Likert-scale (0–3), and has an internal consistency in the current study of $\alpha = 0.88$. A score of 5 points indicate mild depression, 10 moderate depression, 15 moderately severe depression, and 20 severe depression.

1.8. Stress

Stress was explored using the Perceived Stress Scale (PSS; Cohen et al., 1983). It is comprised of 14 items regarding stress in different situations, as experienced during the last month, e.g., “In the last month, how often have you felt that you were unable to control important things in your life?” (Item 2). The PSS is scored on a five-point Likert-scale (1–5), and has an internal consistency in the current study of $\alpha = 0.85$.

1.9. Data Analysis

The collected data were analyzed on SPSS. Inferential statistics was utilized to test hypotheses. Pearson correlation and linear regression analysis was performed.

2. Results

Table 1: Mean, Standard Deviation and Correlation among Academic Procrastination, Depression, Anxiety and Stress

Variables	Mean	Std. Deviation	AP	D	A	S
Academic Procrastination	34.89	19.023	1	.721**	.639**	.731**
Depression	29.98	16.921		1	.598**	.473**
Anxiety	31.13	18.312			1	.593**
Stress	21.43	12.571				1

Table 2: Regression Analysis showing the effect of Academic Procrastination on Psychological Burden among College Students

Predictor	B	Std. Error	Beta	t-test	p-value
Constant	62.234	7.982		45.232	.000
AP	.598	.321	.823	52.980	.000

Adjusted R² .721, p<0.05.

3. Discussion

In academia, procrastination is a well-known, almost commonplace phenomenon. Students often delay tasks and activities inherent to learning and studying, despite knowing that they will be worse off because of the delay (Steel & Klingsieck, 2016). Findings of the study reveal that academic procrastination is significant positive predictor of psychological burden (depression, anxiety and stress) among college students. Moreover, there is positive relationship between academic procrastination, depression, anxiety and stress. Similar to the findings by Sirois et al. (2017), emotional, or, neurotic, aspects of perfectionism thus appear to be much more strongly related to severe procrastination, suggesting that students who are concerned about making mistakes and not living up to certain standards might need treatment that specifically target these issues. Another aim of the current study was to understand the physical and psychological issues related to procrastination by investigating the responses to two open-ended items. In terms of the former, the results demonstrate that many students who procrastinate experience symptoms that are commonly seen in stress and anxiety, such as being tensed, having sleeping problems, and struggling with different forms of pain. These issues are in line with the findings by Grunschel et al. (2013) who also reported a high incidence of such consequences from procrastinating. In addition, it corroborates the procrastination-health model by Sirois (2007), which proposed that stress might act as a mediator between procrastination and many physical issues. The idea that procrastination is associated with stress, and, in turn, leads to other concerns, is reasonable given the nature of procrastination. While it may decrease discomfort temporarily (Sirois & Pychyl, 2013), the activity being postponed still has to be performed on a later occasion, causing more stress overall. As for the psychological issues, these were also characterized by symptoms of stress and anxiety, for example, insomnia, restlessness, and worry, suggesting a high degree of overlap with the physical issues. Again, this corresponds to the results by Grunschel et al. (2013), and should be seen as the affective and somatic effects of being anxious and stressed out from procrastinating. In other words, procrastination does not only appear to cause stress and anxiety in the aftermath of a procrastination episode, but also negatively impacts the general state of the individual by inducing self-doubt, frustration, shame, rumination, and feelings of inadequacy (Giguère et al., 2016).

4. Practical Implications and Recommendations

Apart from aiding the identification of severe procrastinators, the findings from the current study may also have implications for treatment. The physical and psychological issues reported by the participants suggest that symptoms of stress and anxiety are common. On the one hand, procrastination can sometimes be a response to this discomfort. On the other hand, procrastinating an activity can also give rise to this distress (Rozenal & Carlbring, 2014). In both cases, interventions targeting symptoms of stress and anxiety seem important in order to overcome many difficulties experienced by students, which can involve goal-setting, problem-solving, time management, and exposure to negative emotions, as have been tested in clinical trials (e.g., Rozenal et al., 2015). The basic tenet is to lower stress levels and help endure those feelings that might otherwise lead one astray. Moreover, the depressogenic impact of procrastination may cause the individual to feel less willing to initiate goal-directed behaviors. Similar to the actions of someone suffering from major depressive disorder, this however, prevents the person from experiencing mastery and joy, furthering a vicious process of passivity and negative self-evaluation. Interventions that focus on activity scheduling and step-wise performance of activities might therefore be key to overcoming inaction and self-loathing, i.e., behavioral activation. Likewise, students who may be experiencing low self-efficacy due to their procrastination could benefit from study skills training (Svartdal & Lokke, 2022). Concerning the different phases of a procrastination episodes (Svartdal et al., 2020), it might even be worthwhile to differentiate between strategies that up-regulate motivation as in motivational regulation strategies (Grunschel et al., 2016), and strategies that down-regulate negative affect, thus, tailoring them to the specific needs of the student. Furthermore, the environment for many students also seems to result in procrastination and might have to be targeted. Svartdal et al. (2020), provide an overview of the measures that could be taken by course coordinators and lecturers, such as study skills training, group work, and courses in self-regulation.

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