

Academic Procrastination and the Stress of University Students of Electronic Engineering from the Callao Region

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Abstract

The purpose of the study is to establish correspondence between procrastination and academic stress in students of the School of Electronic Engineering of a public university in the Callao Region. The research was developed under the positivist approach, quantitative methodology, and basic type, non-experimental and transversal design. The sample consisted of 205 students calculated by simple random probabilistic sampling. Two questionnaire s were applied to evaluate procrastination and stress which were validated by Cronbach alpha with values of .853 and .943 respectively. The results confirm the correspondence between procrastination and academic stress in students (Spearman's Rho,841). The work concludes that greater dilatory behavior, indecisions, lack of punctuality and lack of planning will tend to increase levels of academic stress.

Key-words: Procrastination, Stress, Academic Stress, Indecision.

1. Introduction

The current landscape requires a positive attitude of change in order to successfully face the future. Learning trainers and mediators should take into account the old saying that brings up the transfer of procrastination, not to be postponed for tomorrow, what can be done today. In this regard, Barraza (2006) mentioned the aftermath of cases of procrastination both socially and institutionally, including taking into account components and origins of this inconvenience, considering aspects such as the loss of millions of dollars for the American government and industry.

On the other hand, at the national level we are not exempt, the vast majority tend to procrastinate from childhood to adulthood. This is demonstrated by Marquina, Gómez, Salas, Santivañez & Rumiche (2016) in research sobre procrastination in 310 university students in Lima; of which he concluded that a large majority of them tend to procrastinate in university life, while just over 50% of them carried out their assigned activities almost at the end of delivery times, generating small notes resulting from improvisation and a limited time of elaboration. These situations lead to health problems that are often related to academic stress. However, other research links procrastination with greater alterations to mental health, as Angarita put it (2012) by mentioning that procrastination stages exhibit a counterproductive pattern of behavior, trying to obtain results as quickly as possible regardless of the various future costs of such repeated action.

According to research carried out by Caldera, Pulido & Martínez (2007) 25% of people suffer from stress difficulties, half of them suffer from disorders as a result of these stages. Other research indicated that university dials have stress at a moderate or high level from the task cluster; complicated by factors such as lifestyle, household chores, schedules and unforeseen events (Barraza, 2006).

On the other hand, the work of Rodríguez & Clariana (2017) with 105 Spanish educated, developed investigations in order to identify whether procrastination is maintained in the future, its manifestation according to the age range or course, or by combination of both variables; concluded that children under the age of 25 tend to be more procrastinating, compared to students with higher age range. In the same line, Chávez & Morales (2017) in a study of 521 psychology students in Mexico, whose purpose was to know procrastination; found that those who do not work scored higher for procrastination compared to those who do work. The study conducted by Díaz, Arrieta & Gonzáles (2014) in dental students, was oriented to determine the relationship between academic stress and family functionality, concluding that academic stress is often aggravated as a result of family dysfunctionality. On the other hand, Medrano (2017) conducted a study with 112

undergraduate youth of both sexes of a national University of Limeña on academic procrastination and its correspondence with academic stress; concluding that these aspects are directly proportional. For his part Morales (2017) conducted research in 91 students of Health Sciences of a private university in Lima, in order to determine the relationship between resilience and academic stress; concluding that there was no correspondence. Picasso, Lizano & Anduaga (2016) in a study with 82 students from a Peruvian university, showed as results that there is an inverse relationship between academic stress and the understanding of emotions.

It is worth mentioning the work of Assistant and Tentalean (2016) who investigated the relationship between procrastination and academic stress in 223 Peruvian university students from 17 to 30 years; concluded that a direct link between the above aspects occurred. Likewise, Yarlequé, Javier, Monroe, Nuñez, Navarro, Padilla, Matalinares, Navarro & Campos (2016) analyzed the correspondence between procrastination, stress and psychological well-being in 1106 university students from Lima and Huancayo, concluding that there was no relationship between coping with stress and procrastination; however, they discovered a considerable influence between procrastination and mental health. For their part, Marquina, Gómez, Salas, Santibañez & Rumiche (2016), investigated the procrastination in 310 university students in Lima, a determined that 97.12% postponed the elaboration of their duties until the last moment, concluding that university students from Lima procrastinate frequently.

This study is under the cognitive behavioral approach, which argues that we act on how we feel and think about ourselves and our context. This current supports the influence of environmental factors on our feelings and behavior; however, it suggests that knowledge has a transcendental mediator role, so that our feelings and actions are generated by our way of analyzing things and not by objective facts (Nativity, 2014).

Theories of cognitive behavioral approach indicate that people behave by influencing the context and its emotions, which are not always logical. In this regard Nativity (2014) argued that procrastination is generated by the alteration of our self-perception and environment; considering the existence of three origins: self-limitation, low tolerance for frustration and hostility, as a result of the above-mentioned alterations. Self-limitations refer to self-contempt through negative thoughts for having procrastinated earlier, generating states of anxiety and depression. As a result of the low tolerance to frustration, most choose to extend their earnings to avoid that feeling as much as possible. The last origin is hostility, which occurs against all those related to the slope. (Nativity, 2014)

Schraw, Wadkins and Olafson (2007) stated that procrastination generates benefits such as cognitive efficiency by achieving a complex task in minimal time. On the other hand, Chu and Choi (2005) argued that procrastination is a mechanism of self-regulation of students, since in doing so they optimize their productivity. Likewise, the aforementioned authors classify the procrastinators into two subgroups, (i) active, which act intentionally because in their view it is a mechanism of self-financing and; (b) liabilities, who procrastinate by indecision to carry it out. Now, according to Ferrari, Diaz, O'Callaghan, Díaz & Argumendo (2007) procrastinate is a common behavior in people from different fields, but is maximized academically (Garzón and Gil, 2017). Additionally, they consider it a mode of self-regulation.

On the other hand, Sirois and Pychyl (2013) noted that procrastination affects health and well-being, leading to mental health problems, anxiety, depression and as a consequence of stress. In addition, they antagonically mentioned that dilation is related to the promotion of well-being, for example, exercising and eating healthy. According to Ellis & Knaus (1997) the causes of procrastination that are common have self-limitation, intolerance to frustration and hostility, causes characteristic of a cognitive style that encompasses a distorted image of one another and the world.

On procrastination, Torres, Padilla & Valerio (2017) maintained a position equivalent to the above lines, as they argue that procrastination delays the start or completion of a slope, delaying it for carrying out proceedings incongruous with it. For their part Chun & Nam (2005) stated that procrastinating consists of the lack of self-regulation, deferring the actions that allow to achieve a goal, causing a lack of time or terrible organization. Likewise, Kandemir (2014) following the same current, stated that it is an inefficient way of life whose sequel is non-compliance with goals, with an apparent medium-term benefit. Diaz (2018) considered it as a trend, which involves postponing the beginning or culmination of our activities for a certain time, generating discomfort related to the deficit of self-regulation whether in the cognitive, affective or behavioral sphere.

It should be mentioned that the dimensions of procrastination consider (a) delay actions, which according to Diaz (2018) refer to the delay of planned measures. Pardo, Perilla & Salinas (2014) pointed out as motivational elements of the delaying actions the expectation, because their success generates comfort, their failure produces stress, as well as uncertainty accompanied by fear of failure. Another factor is valuation, as actions are judged as pleasant or not, based on short-term rewards. The impulsivity factor affects those who have no motivation for the realization of duty. Stanford, Dougherty, Lake, Anderson & Patton, (2009) support the existence of 3 subgenres (i) cognitive impulsivity, which treats spontaneous decisions, (ii) motor impulsivity that occurs when we

act without thinking about it and, (iii) non-planning, which is generated when we neglect the forecast. As for the factor, delay of satisfaction, it refers to the delay and benefits generated by completing the slope, it is more satisfactory when the results of the event are immediate.

Indecision is another dimension of which Diaz (2018) referred to as the dilation to execute a decision. According to McGarity, Excell, and Ferrari (2019) it is understood as the unjustified postponement in deciding how to deal with conflicts. Krumboltz (1992) noted that the indecisive person does not have a deep vision of his desires, causing discontent in him.

Lack of punctuality is another dimension, which according to Diaz (2018) is the inability to do things right within a set time, and that people who postpone things and show unwillingness to perform a task are seen as idle, irresponsible and lazy. Responsibility and diligence are seen as indicators of this dimension. According to Capri, Gondz, & Akbay (2017) responsibility is manifested when one accepts the consequences of his own actions, attitudes or an event that falls under his responsibility. In other words, it would be when you show respect for yourself and others, showing organizational capacity, decision and commitment in your projects. According to García, Orellana & Canales (2011) diligence is evident when there is constancy, shows care and effort properly managing the time to perform the tasks to achieve the proposed objectives.

The planning dimension was defined by Diaz (2018) as the absence of self-discipline to concentrate on a specific task. Self-discipline, referred to as the control of the will that will allow us to meet goals, or achieve tasks, are considered as indicators; organization, referring to the orderly and structured planning of our lives and; self-regulation, or regulation of our own behavior, self-control in the actions we intend to take now (Pychyl, 2018).

The procrastinator devalues himself due to his procrastinating behaviors, presents a subjective devaluation that promotes feelings of anxiety and depression (Ellis and Knaus, 1997). Self-demands to do everything right can prompt the procrastinator to avoid doing things in time, or make excuses not to make them, following this logic, the origin of procrastination could be in the overly strict and demanding belief of perfectionism, and a vision of what one is able to achieve as there is a positive relationship between procrastination and fear of failure (Ellis & Knaus , 1997).

Ellis & Knaus (1997) noted that a low tolerance of frustration, the inability to tolerate the slightest discomfort, may be other causes of procrastination. The setback or delay in satisfying desires, not enduring any unpleasant feelings or circumstances. There is a distorted belief that such suffering is unbearable; based on this self-limiting belief, individuals with this cognitive style choose to defer homework. Another cause of procrastination is hostility, conceptualized as a subconscious or

unconscious act against other important people (parents, teachers, friends) since hostility is like an emotional manifestation against all those related to the task that was not performed. (Ellis & Knaus, 1997)

On the other hand, Cognitive Systemic Theory arises in order to describe academic stress and establish it as a psychological state. In this sense, Barraza (2006) taking into account the general theory of systems and the transactional theory of stress, proposes to establish specific scopes regarding academic stress, delving into its study through three very significant elements: stressors, signals or indicators of the stressful situation and coping strategies. This theory raises some very important aspects such as stress which, according to the aforementioned researcher, is a multidimensional variable, which manages to be explained through the systemic approach.

On the other hand, from a cognitive perspective, it is important to know the development of stress through the processes that every human being evokes, as referred to in the transactional model of stress (Oliveti, 2010). According to the aforementioned model, everyone in interaction with their environment establishes a brief cognitive pause to channel the demands offered by the medium, which are addressed according to the resources that each individual has to process such environmental demands (Cox, 1978). Often such action has been recognized through the construct called confrontation, which in various situations presents itself as a regulator of the emotional response that is usually emitted in demanding or stressful situations (Lazarus and Folkman, 1986). Based on the above, Barraza (2006) raised from the systemic and cognitive model the development of academic stress, which is basically explained as the product of the demands of a certain "academic" system, events that allow the individual to acquire a valuation process, which if it becomes overflowing begins to give rise to stressors, these stressors from a systemic point of view are considered as causing a systemic imbalance of the individual in the face of their environment, this process results in a second phase known as coping with the stressful situation, which can be established as coping strategies, which, being successful, provide the systemic balance back to the individual.

Lemos, Henao & López (2018) indicated that stress is a process in which an event or stimulus is perceived as threatening and that generates physiological, emotional and behavioral responses that can be considered normal. When such responses are over-given, they produce in the body an overload of tension that harms the person, thus appearing diseases and psychopathological abnormalities, which prevent the normal functioning and development of the body such as mood disturbances, lack of concentration, muscle contractures, headaches, among other symptoms. Barraza (2007) defines

stress as a systemic process, psychological and adaptive, presenting itself in three moments: first, the student according to his perspective is immersed in a series of academic demands generating stress; second, stress creates an imbalance, and third there is a confrontation of the situation to restore systemic balance.

Barraza (2007) conceptualized academic stress as a psychological and systemic process, which manages to be adaptive and presents itself in academic contexts, in the face of a series of overflowing demands from the perspective of each individual, which, by passing the resources that each person has, are established as stressors triggering a systemic imbalance or a stressful situation, demanding in the student the use of coping or the establishment of strategies that allow to counteract the stress situation (Toribio and Franco, 2016). For their part García y Escalera (2011) defined academic stress as an imbalance between demands and the responsiveness of the organism that is perceived in situations in which failure has serious consequences. Similarly, Selye (1976) stated that academic stress implies the low availability of timely actions in the face of a demanding situation, events that generate negative and significant impact on the individual.

For his part, Cox (1978) raised that academic stress is the imbalance between the demands that are perceived at the academic level and the ability of the individual he considers to solve such dilemmas. From the perspective of Lazarus & Folkman (1986), academic stress is considered as the interaction between the individual and his academic environment, which at a certain time can be positioned as overflowing with the individual's resources, establishing himself, as well as threatening to the well-being of every person. Finally, Hobfoll (2007) raised that stress represents the emotional or resource wear and tear that an individual has to deal with demanding situations of the academic context.

As for the dimensions of academic stress, you have the "SISCO Academic Stress Inventory" (Barraza, 2007). Such inventory consists of three factors or dimensions: (a) stressors of the academic environment, which are situations perceived as stressful, defined as actions or eventualities that particularly cause imbalance in the individual; (b) psychosomatic manifestations are reactions to stressor stimulus, understood as physical and behavioral symptomatic manifestation in the face of academic and stress; (c) coping strategies, the frequency of use of which is understood as the measured use of strategies used by an individual to cope with the stressful situation. (Barraza 2007)

Regarding the causes of academic stress, Stora (1991) mentioned that it occurs as a reaction of the body to protect itself. Such a reaction is good as it could save life in the face of an emergency, otherwise if overexposed to continuous stress can be fatal, as is the case of individuals who

constantly have problems at the economic, labor, sentimental and health level (Sirois & Pychyl, 2013). Any event that produces an emotional response can trigger stress, even if it doesn't necessarily have to be negative, such as the birth of a child or a marriage. According to Merino (2014) stress can have various causes such as: (a) Biological, or organic changes that generate stress such as health problems, accidents, age, sex; being the most prone women to emotional exhaustion, manifesting themselves on an affective level unlike males who express it at the behavioral level. (b) Psychological, based on personality characteristics such as anxiety, low self-esteem, perfectionism, depression, lack of motivation, memory impairment and concentration. (c) Sociocultural, are defined by the environment around us, for example, change of address, conflicts with people close to us, overcrowding at home, at work or study center, group responsibilities. (d) Cultural, relating to changes in habits and customs, academic preparation, the working environment among others.

For all that was pointed out, it was a problem to investigate what is the relationship between academic procrastination and stress in university students of Electronic Engineering? It was also sought to determine the following: What is the relationship between dimensions: delaying behaviors, indecision, lack of punctuality and lack of planning in the face of the stress of university students of Electronic Engineering?

The research was developed under the theoretical conceptual framework, seeking theoretical sustenance regarding procrastination and its dimensions such as: delay of activities, indecisions, impunity and poor planning, aspects that will impact the objectives set, threatening the emotional state as the behavioral one. The importance of research lands on the social and practical context which, in the current moments of social isolation by the Covid-19 pandemic tends to emerge among students and their pace of life, as they are new situations and of a very dissimilar and complex context.

2. Methodology

This basic type research was based on correlational design. The population consisted of 440 students enrolled in the 2020-I academic year, belonging to the Professional School of Electronic Engineering of a public university in the Callao Region, Peru. The exhibition consisted of 205 students from all academic cycles, to which two questionnaires were applied: 'University Student Procrastination Questionnaire' (Diaz, 2018) and the 'Academic Stress Questionnaire of University Students' (Barraza, 2006) which they gave as reliable based on a pilot test, yielding values of .853 and .943 for Cronbach's alpha respectively. The Kolmogorov Smirnov test was applied to estimate

normality. Based on this test, the contrast was based on the use of Spearman's Rho coefficient statistic.

3. Results

After the survey evaluation of students of the School of Electronic Engineering of a public university of the Callao Region; 205 respondents had to be about half of them (51%) exhibited moderate levels of procrastination, followed by a not inconsiderable 40% that if they showed a high level and only 9% (17 students) stated to have low levels for procrastination.

Stress levels in engineering students had to have 64% (132 individuals) manifested low levels of stress, followed by almost a third of them (31%) found at the moderate level and only 5% (10 students) if they exhibited elevated levels of the aforementioned anomaly.

.841 For Spearman's rho coefficient. Likewise, the correlative analysis of the dimensions belonging to procrastination correlated with stress generating a value of .767 for spearman's coefficient that indicated that linkage occurred between students' dilatory behaviors and stress. It could also be inferred that there was a significant positive and significant link between the indecision and stress dimension, a fact that was validated by the value of .587 for that correlation coefficient. Another aspect analyzed was the lack of punctuality of students and whether it was linked to stress, a fact that turned out to be positive and significant by the value of, 648 for the correlation coefficient mentioned. Finally, the correlal inference between the lack of planning of engineering students against stress was assessed, resulting in the link being positive, significant and relatively high (Spearman's rho, 761) so it was established that the negative aspect in the student's planning has affected the increase in their perception of stress.

Table 1 - Correlation coefficient between academic procrastination and student stress from the School of Electronic Engineering of a public university in the Callao Region.

		Academic stress
Procrastination	Spearman's correlation	,841**
	Sig. (p)	,000
Dilatory behaviors	Spearman's correlation	,767**
	Sig. (p)	,000
Indecision	Spearman's correlation	,587**
	Sig. (p)	,000
Lack of punctuality	Spearman's correlation	,648**
	Sig. (p)	,000
Lack of planning	Spearman's correlation	,761**
	Sig. (p)	,000
	N	205

** . The correlation is significant at level 0.01 (bilateral).

4. Discussion

According to descriptive results regarding procrastination, 91% of students at the Electronic Engineering School of a public university in the Callao Region had moderate and high levels of procrastination. Results other than those mentioned were obtained by Rodríguez & Clariana (2017) who stated that research was needed on the causes of the origin of academic procrastination and the reasons why they increased in the teenage period and at the same time tend to decrease towards adulthood progressively. In this regard, it should be noted that such findings turn out to be controversial in relation to age. The stress levels found in engineering students were caused by factors such as demands of the academic environment, presence of psychosomatic manifestations and not having adequate strategies to deal with stress.

For the students analyzed, 64% had to have a low level of stress, while the remnant (36%) exhibited moderate to high levels of stress. These results are comparable to those reported by Bedoya, Matos and Zelaya (2014), who identified high levels of academic stress in students from a private university in Lima who were in the first and seventh years of medicine and, an average stress level in fourth-year students. They also demonstrated that males procrastinate at low levels compared to women. It should be mentioned that most engineering students due to factors and demands of the academic environment were stressed by the presence of psychosomatic manifestations and not have strategies to deal with stress.

The inferential results obtained in the contrast showed that the academic procrastination and stress of students of the School of Electronic Engineering of a public university of the Callao-Peru Region showed a significant and direct relationship, so it could be inferred that if the actions of procrastination were increased, a marked increase in academic stress rates will be observed. Quasi-similar were the results of Gil & Botello's (2018) research that determined that a significant relationship occurred between the postponement of activities and stages of anxiety. From the results analyzed it could be inferred that, if students postpone their activities leaving the tasks for the last hour, when the evaluations of the different subjects arrive the academic actions are accumulated and delayed facts that will generate in the students a series of multiple adverse physical reactions, as well as inappropriate behavioral reactions when referring their situation to third parties.

The results of the correlation between the delaying behaviors and the stress of students analyzed were significant and direct, which led to infer that as long as there is greater postponement of activities this will seek an increase in stress episodes. Such inference can be endorsed by the findings of Dominguez & Campos (2017) whose study focused on satisfaction against academic

procrastination in university students; they concluded that study satisfaction had a significant and negative impact on procrastinatory behavior, understood as poor activity planning and delayed compliance, showing that if students are satisfied with equal learning they procrastinate. It should be mentioned that aspect such as underestimating activities, makes students consider tasks as unnecessary activities, because they are not to their liking, resulting in stress, subjective discomfort, annoyance and that, in the near future, will be reflected in behaviors that do not allow to achieve their objectives.

The results obtained regarding the relationship between indecision and stress, allowed to establish that there was correlation between such parameters, so it was inferred that, if students showed indecision, then they could not make adequate decisions done that will lead to generating stages of stress. Corroborating the above, reference can be made to the work of Sarubbi and Castaldo (2013), who stated that tasks, work of the different subjects, evaluations, workshops, group works, debates, field outings and other commitments that the student develops throughout his academic training, usually lead to an overload in the activities, a fact that reverses in episodes of stress in response to all the facts that cause concern and discomfort so the stressors are activated and impacted on different family, staff, professional academic, work areas, among others, which in the end leads in severe cases to unfavorable performance and health problems.

The results obtained regarding the relationship between lack of punctuality and stress in students were significant as a significant, direct and moderate relationship occurred which resulted in an increase in procrastination indicators based on impunity tending to increase stress. This finding had a simile in the work developed by Rivas, Jiménez, Méndez, Cruz, Magaña and Victorino (2014) who referred that the cause of stress in students are interpersonal aspects such as communication with parents and other subjects around them. On the other hand, they noted that impunity in the delivery of jobs and / or tasks, bring with them the elevation in stress levels.

The relationship between the lack of planning of academic activities and the stress among the students analyzed was significant, which led to infer that, if those who do not plan their activities, then they will be at risk of stress paintings. In this regard, it is worth mentioning the studies of Yucra (2011) referred that the university students of the eighth semester disclosed that they plan from time to time, maintaining some dissatisfied with formal planning. Finally, it should be noted that, if university students tend to show indiscipline with regard to the planning of their activities so they should rethought to organize their times with views of trying to avoid suffering from higher levels of stress.

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