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Analysis of the Relationship between Anxiety, Procrastination and Decision-Making Capacity in Teachers

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Abstract. This study explores the complex relationships between anxiety, procrastination, and decision-making capacity among teachers. Procrastination is defined as the deliberate and frequently harmful postponement of important tasks, having negative effects on individual and organizational performance. Anxiety is characterized as an unpleasant, future-oriented emotional state associated with intense physiological and behavioral reactions. Decision-making capacity involves complex cognitive processes necessary to choose an optimal alternative from the multiple options available. In a first unit of content, the system of educational sciences is made transparent, in an essentialized way: general pedagogy, school pedagogy, special pedagogy, professional pedagogies, comparative pedagogy, history of pedagogy, philosophy of education, methodologies and family pedagogy. Secondly, the pedagogical functions and didactic strategies are addressed, highlighting the role of the didactic means in the educational process, including the communication, illustrative-demonstrative, stimulative, ergonomic and evaluation functions. Next, it explores skills as an instrumental side of personality, defined as a set of cognitive, psychomotor and sensory processes necessary for performance, and discusses the relationship between skills and individual performance, talent and genius. Particular attention is paid to cognitive skills, including decision-making and the cognitive processes involved, with reference to normative theories and recent discoveries in the field of decision-making. Procrastination is analyzed in detail, presenting the causes of procrastination (personal and organizational), its effects on the individual and the organization, and the strategies to combat it. The nature of anxiety is described through definitions and manifestations of anxiety, its impact on behavior and performance, and strategies to reduce anxiety. The study reveals a significant correlation between anxiety levels and the tendency to procrastinate, which negatively influences teachers' decision-making capacity. The conclusions highlight the need for interventions to reduce anxiety and procrastination to improve decision-making efficiency. Training programs for time management and anxiety reduction techniques can significantly contribute to improving teachers' professional performance.

Keywords. Cognitive skills, anxiety, procrastination, teachers.



1. System of educational sciences

Pedagogy, an extremely epistemologically challenging conceptual construct, but also with heterogeneous statuses (art, science, technique) associated with educational sciences, deals with the study of the essence and characteristics of the educational phenomenon, as well as with the definition of the goals and tasks of education, the evaluation of its value and limits, and the elaboration of the content, principles, methods and forms of educational processes. As the pedagogical discourse evolves in depth, various specializations are outlined, especially through hybridization, covering distinct fields, contents or age stages, forming a complex system of pedagogical disciplines: general pedagogy, school pedagogy (with subdivisions for ante-preschool, preschool and school education), special pedagogy (which includes fields such as deaf-pedagogy, typopedagogy and oligophrenopedagogy), professional pedagogies (such as agricultural, economic, artistic, legal, etc.), comparative pedagogy, history of pedagogy, philosophy of education, methodologies and family pedagogy (Cucos, 2002, pp. 20-21).

A classification made on two of the criteria of pedagogical science (the specific research object of educational sciences and the specific research methodology) is the one proposed by S. Cristea (2000, pp.355-356).

Thus, in relation to the first criterion, the following can be differentiated:

- a) pedagogical sciences or sciences of fundamental education, constructed as general theories (of education, training, curriculum, pedagogical research) and
- b) sciences of private education (subordinated to the fundamental ones): theory of primary education, private didactics, family pedagogy, etc.

In relation to the second criterion, the following can be specified:

- a) educational sciences that capitalize in a specific pedagogical sense on research methods specific to other sciences (see history of pedagogy/pedagogy of history, comparative pedagogy, experimental pedagogy);
- b) educational sciences that capitalize, in a specifically pedagogical sense, on intradisciplinary research methods (evaluation theory, moral education theory, etc.);
- c) educational sciences that capitalize in a specifically pedagogical sense interdisciplinary research methods (philosophy of education, sociology of education, psychology of education, economics of education, management of education, etc.)

2. Pedagogical functions and teaching strategies

L. Colceriu (2008) argues that the didactic means represent sets of tools and objects used in the educational process, aiming to increase efficiency in achieving objectives such as the transmission of knowledge, the formation of practical skills, the development of competences and the formation or consolidation of attitudes. In order to use these means correctly and effectively within the framework of teaching strategies, it is essential to know and respect their pedagogical functions. The communication function refers to the ability of teachers to directly transmit information about the objects, facts, phenomena, events or processes studied, thus becoming objective tools to facilitate the assimilation of new knowledge. The illustrative-demonstrative function is manifested by the ability of these means to support and improve didactic communication based on spoken language. The stimulating function highlights the role of



teaching means in challenging and developing students' motivation towards the problems studied, thus contributing to sustaining their interest and involvement in the learning process.

Some educational means, when used properly and properly integrated with the teaching methods, can awaken the student's interest and curiosity for the informational content approached within the educational process. Ergonomic function refers to the ability of certain educational means to contribute to streamlining students' learning efforts. The evaluation function is manifested by the use of teaching means in the evaluation process, which contributes to reducing evaluation errors and, implicitly, to increasing the efficiency of this process. (L. Colceriu, 2008, p. 123).

3. Skills (instrumental side of personality)

Aptitude is a set of cognitive, psychomotor and sensory processes necessary to achieve performance in a variety of activities. Success in these activities requires not only skills, but also knowledge acquired through education. Aptitude is one of the most complex psychic structures, being an accumulation of attributes that allow performance in a specific activity. Talent is a higher manifestation of skills, and the highest form of skill development is genius.

Allport (1981) describes aptitude as having a "personalistic structure", the result of a unique combination of the interests and traits acquired by each individual and their native endowment. Skills have significant relationships with each component of the personality, contributing to effective behavior and individual performance.

Mielu Zlate (1994) defines aptitudes as follows: "aptitudes represent a complex of individual psychic processes and attributes, structured in an original way, which allow the successful performance of certain activities".

Skills allow people to differentiate themselves in terms of performance in various activities. These are closely related to habits, which, if wrong, can negatively influence the development of skills. However, without skills, skills alone cannot ensure success in a certain activity. Carrying out an activity depends on a complex set of skills, structured in a hyper-complex way at the personality level. (Zlate, 1994)

4. Decision-making as a cognitive skill

Making a decision involves a series of cognitive processes that lead to the choice of an alternative from the multiple options available. The first research in the field of decision-making was carried out by mathematicians and economists, who tried to find strategies for optimizing the decision-making process. Normative theories, such as expected value theory, expected utility theory, and game theory, are such attempts to optimize decision-making by applying a rigorous mathematical apparatus. However, research initiated by Herbert Simon (1959) and developed by Amos Tversky and Daniel Kahneman has shown that decision-makers do not approach decision-making in a purely rational manner.

Studies investigating the decision phenomenon use specific experimental tasks, which do not overlap with problem-solving tasks or classical reasoning tasks. Therefore, decision-making, as evidenced by scientific research, is studied through specific tasks, which are relatively independent of the skills listed in classical skill lists.



Decision-making performance is becoming increasingly relevant in various areas that are essential for social progress, such as economic and political decisions. Choosing the optimal alternative is of major importance. The interest in rational analysis of alternatives and the identification of optimal decisions is at the center of much research, including normative theories of decision.

5. Procrastination

Procrastination, defined as the deliberate and frequently harmful procrastination of important tasks, is a common problem in the workplace. This affects not only individual productivity, but also team performance and, implicitly, the success of the organization. To better understand the phenomenon of procrastination, it is essential to analyze the causes, effects and effective strategies to combat it.

There are multiple causes of procrastination, which can be classified into personal and organizational factors. Personal factors include anxiety, perfectionism and lack of motivation. Anxiety about failure or criticism can cause employees to postpone tasks to avoid the associated stress. Perfectionism can cause employees to delay starting a project until they consider all conditions to be ideal, which rarely happens. Lack of motivation is often the result of a lack of interest in the task or a lack of understanding of its purpose.

On an organizational level, factors such as a lack of clarity in assigning tasks, a faulty organizational culture, and overwork can contribute to procrastination. Lack of clarity can leave employees unsure about what they need to do and in what order. An organizational culture that doesn't emphasize strict deadlines or accountability can also encourage procrastination. Overwork, caused by multiple and complex tasks, can overwhelm employees, causing them to postpone certain activities in favor of the easiest or most enjoyable ones. (Tice, D. M., & Baumeister, R. F., 1997).

Procrastination has significant negative effects on the individual and the organization. On an individual level, it can lead to increased stress, low quality of work and decreased job satisfaction. Employees who procrastinate frequently face tight deadlines, which can cause chronic stress and affect mental and physical health. The quality of work also suffers, as tasks performed in a hurry are often inferior in quality. In the long run, procrastination can lead to decreased job satisfaction and commitment to work. (Tice, D. M., & Baumeister, R. F., 1997)

For the organization, the effects are just as serious. Procrastination affects overall productivity and operational efficiency. Projects can be delayed, costs can increase, and the company's reputation can suffer. Additionally, team morale can be affected, as tasks not completed by an employee often need to be taken over by other team members, which can create resentment and tension.

To combat procrastination, it's essential for employees and organizations to adopt proactive strategies. On an individual level, time management techniques such as the Pomodoro method and prioritization can be helpful. The Pomodoro method involves working focused for short periods followed by short breaks, which can improve concentration and productivity. Also, setting SMART goals (Specific, Measurable, Accessible, Relevant, with Deadlines) can provide clarity and motivation. (Tice, D. M., & Baumeister, R. F., 1997)



Organizations can contribute by creating a clear and supportive work environment. This includes providing appropriate training, clarifying expectations, and providing constructive feedback. Also, implementing reward systems for completing tasks on time can encourage employees to better manage their time and avoid procrastination.

6. The nature of Anxiety

In 2019, Edmund J. Bourne wrote that anxiety has an impact on every person, causing complex reactions that include physiological, behavioral, and psychological aspects. It is not only a mental problem but can have an impact on the body and the way someone behaves.

In 1980, Lewis operationally defined anxiety as follows: "Anxiety is an unpleasant emotional state, characterized by a subjective quality experienced as fear or another closely related, future-oriented emotion that occurs either in the absence of recognizable danger or as an excessive response to real danger. This is accompanied by subjective somatic discomfort and objective somatic disorders." (Predescu, V., 1989)

Compendium of phobias states: "A clarification is required, a broader differentiation between the terms anxiety, phobia and panic attack." (Mitrofan, L., Dumitrache, S.D, 2010, p. 11)

Anxiety manifests itself on many levels, according to the definition of Edmund J. Bourne (2019). They can cause physiological reactions such as rapid heart rate, muscle tension, nausea, dry mouth or excessive sweating. Anxiety can affect behavior, including how you act, communicate, or handle everyday situations. Finally, anxiety is defined as a subjective state of restlessness and worry. Edmund J. Bourne also says that anxiety can have significant implications in the recovery and recovery process. It is necessary to address all three levels involved in the full recovery program, which are:

- Reduction of physiological reactivity
- Removing avoidance behaviors
- Changing subjective interpretations or negative thoughts that support anxiety and restlessness.

There are a variety of forms and levels of intensity of anxiety, as stated by Edmund J. Bourne (2019), from a mild feeling of restlessness to an extremely intense panic attack that is characterized by palpitations, confusion, and terror. A spontaneous attack occurs when feelings of anxiety arise for no explicit reason.

It is different if four or more of the following symptoms occur at the same time (this is known as a panic attack), according to Bourne (2019):

- Shortness of breath
- Palpitations
- Sweat
- Choking sensation
- Numbness
- Fear of death
- Nausea
- Hot or cold chills
- The Feeling of Detachment.



It is said that anxiety can be classified as situation anxiety or phobic anxiety when it occurs only in a certain context, according to Edmund J. Bourne. This form of anxiety is different from the normal type of fear because it is more intense and can be limiting in terms of daily activities. For example, anxiety about driving on the highway or visiting a doctor. When someone starts avoiding a situation, situation anxiety turns into phobia. In other words, phobic anxiety is a type of situational anxiety that involves constant avoidance of circumstances.

Anxiety can also occur when people think about a specific situation very often. If he feels troubled when he thinks about what could happen in a situation that scares you, he experiences so-called anticipatory anxiety.

There is an important difference between spontaneous anxiety and anticipatory anxiety. The spontaneous one generally appears out of nowhere, reaches its climax very quickly and then gradually fades. And the anticipatory one is built gradually, as a reaction to the threatening situation it has encountered and then quickly disappears. (Edmund J. Bourne, 2019)

In addition, people with a predisposition to anxiety share a number of personality characteristics. Some are good, such as creativity, compassion, and kindness. These traits make people very beloved by friends and family. However, there are certain traits that have the potential to worsen anxiety and reduce the self-confidence of people who have anxiety disorders. Its characteristics include perfectionism, excessive need for approval, tendency to neglect signs of physical and psychological stress, and excessive need for control.

7. Methodology of research

The **general objective** of the paper is to analyze the relationship between anxiety, procrastination and decision-making capacity in teachers.

The secondary objectives that we pursued in this research are the following:

Objective 1 – To follow a possible correlation between anxiety and decision-making capacity.

Objective 2 – To follow a possible correlation between decision-making capacity and procrastination.

Objective 3 – To follow a possible correlation between anxiety and procrastination.

The research hypotheses are:

H1. It is presumed that there is a correlation between anxiety and decision-making ability.

H2. It is assumed that there is a correlation between decision-making capacity and procrastination.

H3. It is presumed that there is a correlation between anxiety and procrastination.

The **sample** selected for the research includes 34 participants from the category of dictatic staff. The sampling method we opted for is the non-probability one, namely convenience sampling. We have selected the available participants, who volunteer to contribute to the realization of this work.

To carry out the research, we applied a series of **psychological tests** to be able to determine the identification of the appropriate traits. The psychological tests used in this research are: A. Decision-making capacity assessment test; B. Cattell Questionnaire – Anxiety; C. The Workplace Procrastination Scale (WPS).

We applied the questionnaires to a group of 34 adults, randomly chosen, questionnaires that measure the level of anxiety, procrastination and decision-making capacity. This procedure



was carried out online with the help of a questionnaire created with google forms. The application of the questionnaires started on February 20, 2024. The completion of obtaining the necessary data ended on May 5, 2024. The next step was the statistical calculation of the data obtained and the psychological interpretation of the results. We concluded the research by formulating conclusions and recommendations for teachers.

The questionnaires that have been applied are established tools, which have already been applied, tested and validated on the Romanian population.

The 34 subjects gave their consent to participate in the research, were informed about the nature and purpose of the research, and any anticipated disadvantages of participation. Participants were allowed to ask questions and, if they choose, opt out of the study at any time without any risk or disadvantage.

The confidentiality of the subjects is ensured and protected, and it is not possible to identify them in the light of the fact that only a code consisting of letters is used. While research is questionnaire-based, it does not pose psychological or physical risks to subjects as experiment-based research does.

8. Results and discussions

H1. It is presumed that there is a correlation between anxiety and decision-making ability.

In order to test our hypothesis, we processed the data with the help of SPSS, first checking the distribution, applying the Kolmogorov-Smirnov normality test.

Table 1: Calculation of the normality of the distribution of scores for the variables - anxiety and decision-making capacity

Table 1. Tests of Normality for Anxiety and Decision-Making Capacity

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Mr.
anxiety	.136	34	.111	.970	34	.453
Decision-making capacity	.127	34	.180	.938	34	.056

a. Lilliefors Significance Correction

As can be seen from the table attached above, there is an asymmetric distribution that we can also see in the figures of the histograms above. Because we obtained an asymmetric distribution, in order to be able to verify our hypothesis we applied a nonparametric test method.



Table 2. Calculation of the correlation coefficient for anxiety and decision-making capacity

Tabel 2. Correlations

		anxiety	Decision-making capacity
Spearman's rho	Correlation Coefficient	1.000	-.362*
	Sig. (2-tailed)	.	.035
	N	34	34
	Correlation Coefficient	-.362*	1.000
	Sig. (2-tailed)	.035	.
	N	34	34

*. Correlation is significant at the 0.05 level (2-tailed).

Following the applied nonparametric Spearman test, we obtained a correlation coefficient of -0.362, which suggests a moderate negative correlation between anxiety and decision-making ability.

According to the results obtained from these tests, we can conclude that there is a significant negative correlation between anxiety and decision-making capacity, which indicates that as anxiety increases, decision-making capacity decreases to a moderate extent.

Hartley, C. A., & Phelps, E. A. (2012) examine how anxiety affects decision-making processes. The authors found that anxiety can negatively influence decision-making ability, leading to decision avoidance and difficulties in assessing risks and benefits.

Bishop, S. J. (2009) showed that trait anxiety is associated with reduced activation of the prefrontal cortex during decision-making processes, suggesting that anxiety may compromise executive function necessary for effective decision-making.

Starcke, K., & Brand, M. (2012) proposed an integrated model that explains how anxiety negatively affects decision-making by interfering with higher cognitive functions. The study suggests that anxiety increases uncertainty and reduces the ability to process information relevant to decisions.

H2. *It is assumed that there is a correlation between decision-making capacity and procrastination.*

To test the hypothesis, we first checked the distribution with the SPSS, applying the Kolmogorov-Smirnov normality test.

Table 3: Calculation of the normality of the distribution of scores for the variables - decision-making capacity and procrastination



Tabel 3. Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Mr.	Statistic	df	Mr.
Decision-making capacity	.127	34	.180	.938	34	.056
procrastinate	.182	34	.006	.942	34	.071

a. Lilliefors Significance Correction

With an asymmetric distribution in both samples, we used a nonparametric test method, presented below.

Table 4: Calculation of the correlation coefficient for anxiety and decision-making capacity

Tabel 4. Correlations

			Decision-making capacity	procrastinate
Spearman's rho	Decision-making capacity	Correlation Coefficient	1.000	-.196
		Sig. (2-tailed)	.	.267
		N	34	34
	procrastinate	Correlation Coefficient	-.196	1.000
		Sig. (2-tailed)	.267	.
		N	34	34

According to the results obtained from the testing using the non-parametric Spearman method, we obtained a correlation coefficient of -0.196, which suggests a very weak negative correlation between decision-making capacity and procrastination. This means that, as decision-making capacity increases, procrastination tends to decrease slightly, but this relationship is an extremely weak one.

According to these obtained data, the very weak negative correlation observed is not statistically significant, which means that decision-making capacity and procrastination seem to be independent of each other in our sample.

Ferrari and Dovidio (2000) analyzed procrastination in the context of managerial tasks and decision-making capacity. The results did not show a significant relationship between procrastination and decision-making capacity, thus supporting the hypothesis that procrastination may be influenced by factors other than decision-making capacity.

Strunk, K. K., & Steele, M. R. (2011) explore the link between decision-making style, procrastination, and perceived stress. The results indicated a weak correlation between decision-making ability and procrastination, suggesting that other variables, such as stress and cognitive assessments, may play a greater role in procrastination.



H3. *It is presumed that there is a correlation between anxiety and procrastination.*

With this hypothesis, we wanted to check if there is a correlation between anxiety and procrastination. Thus, to begin with, we checked normality with the help of the Kolmogorov-Smirnov normality test, as seen in the table below.

Table 5: Calculation of the normality of the distribution of scores for the variables – anxiety and procrastination

Tabel 5. Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Mr.	Statistic	df	Mr.
procrastinate	.182	34	.006	.942	34	.071
anxiety	.136	34	.111	.970	34	.453

a. Lilliefors Significance Correction

As can be seen in table 5 attached above, we obtained an asymmetric distribution, which also emerges from the histograms below.

Following these results, we applied a non-parametric test method, which can be seen in the correlation table below.

Table 6: Calculation of the correlation coefficient for anxiety and decision-making capacity

Tabel 6. Correlations

			procrastinate	anxiety
Spearman's rho	procrastinate	Correlation Coefficient	1.000	.620**
		Sig. (2-tailed)	.	.000
		N	34	34
	anxiety	Correlation Coefficient	.620**	1.000
		Sig. (2-tailed)	.000	.
		N	34	34

** . Correlation is significant at the 0.01 level (2-tailed).

The Spearman correlation coefficient of 0.620 suggests a strong positive correlation between anxiety and procrastination. This means that as anxiety levels increase, the tendency to procrastinate also increases.

The chart above shows an upward trend, and while there is considerable variation in the data, the dots seem to be aligning somewhat upwards.



From these data we can conclude that there is a significant positive correlation between anxiety and procrastination, which confirms the hypothesis launched.

Dewitte, S., & Schouwenburg, H. C. (2002) conducted a study in which they investigated the relationship between procrastination and stress, including anxiety, in primary school children. The results indicated that there is a significant positive correlation between procrastination and stress and anxiety levels. Children who experience high anxiety are more likely to procrastinate, which can lead to poor academic performance and problems adjusting to school.

Onwuegbuzie, A. J. (2004) investigates the links between self-efficacy, anxiety, and procrastination in college students. The results show a significant positive correlation between anxiety and procrastination, suggesting that students with high levels of anxiety tend to procrastinate more, which negatively affects academic performance and overall well-being.

9. Limits of the study

Our research also has certain limitations that need to be considered:

- **Limited Sample:** The small number of participants (34 teachers) may limit the generalizability of the results.
- **Convenience Sampling:** Using a non-probability sampling method (convenience sampling) may introduce some degree of bias in the selection of participants.
- **Self-reported methods:** The use of self-reported questionnaires can influence the accuracy of the data due to the subjectivity of the responses.

Conclusion

Our main objective of our research was to investigate the relationship between anxiety, procrastination and decision-making capacity in teachers. Following the application of the questionnaires and the processing of the data obtained, we reached the following conclusions:

The results suggest that as anxiety levels increase, decision-making capacity decreases to a moderate extent. This finding underscores the importance of managing anxiety in the decision-making context, highlighting that anxiety can negatively affect teachers' ability to make effective decisions.

Data analysis revealed a very weak negative correlation between decision-making capacity and procrastination, therefore, on our sample, decision-making capacity and procrastination seem to be independent of each other. This implies that other variables could mediate or influence the relationship between these two constructs.

The results indicate a strong positive correlation between anxiety and procrastination, these results emphasize the need to address and manage anxiety to reduce procrastination behaviors in teachers.

Based on the conclusions obtained, we can formulate some recommendations for teachers and educational institutions:

Interventions for Anxiety Management: It is essential to implement psychological support programs aimed at reducing anxiety among teachers. These programs could include relaxation techniques, psychological counseling, and training to develop coping skills.

Development of Decision-Making Skills: Given the moderate negative relationship between anxiety and decision-making capacity, it is important to organize trainings and



workshops that help teachers improve their decision-making skills, especially in stressful conditions.

Reducing procrastination: Programs aimed at reducing procrastination could benefit from including specific modules for managing anxiety. This can help improve work performance and better time management.

Future studies should consider a larger and diversified sample to confirm and expand the results of the present research. It would also be helpful to explore other factors that could influence the relationships between anxiety, procrastination, and decision-making.

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