

# Understanding the Distraction and Distraction Mitigation Factors and Their Relationship with the Procrastination of Master's and Doctoral Students in Administration

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## Abstract

The lack of studies on academic procrastination caused by distractions in the context of social isolation, during the COVID-19 pandemic, motivated the study that sought to answer: How do master's and doctoral students perceive distraction and distraction mitigation factors in about your procrastinating behavior? Aiming to understand the distraction and attention mitigation factors that influence procrastinating behavior in the postgraduate academic context. This is qualitative research of phenomenological nature. The study participants are twenty-four students, twelve master's students representing about 23% of the universe, and twelve doctoral students, corresponding to approximately 21% of the universe. Based on a literature review, a theoretical framework developed that allowed comparison with the earlier analysis categories and the data collected in the semi-structured interviews. The topics Academic Distraction Factors (ADF) and Academic Distraction Mitigation (ADM) generated 583 citations, finding sixty-one codes or subcodes. The lack of planning and work outside presented as complicating factors that lead to academic procrastination. Suitable time management and the use of tools to help manage learning are good allies in mitigating distractions.

**Keywords:** procrastination, academic distraction factors, academic distraction mitigation

## 1. Introduction

Procrastination is a widespread phenomenon. It is estimated that more than 20% of healthy adults have one or more unnecessary delays in important activities resulting from procrastinating behavior (Kaftan & Freund, 2018). In the academic field, procrastination has received special attention. This phenomenon has varied effects, such as lower academic performance, episodes of psychiatric symptoms, multitasking behavior, and low self-confidence (Wu & Cheng, 2019). Thus, academic procrastination presents itself as a problem for students of all levels of education.

In times of the COVID-19 pandemic, with social isolation, in which face-to-face meetings were not possible, students had to share time and space, which would previously dedicate only to academic learning, with other activities and tasks. In addition to this division of time and space, there are distractions that directly influence academic behavior towards their study focus. These distractions appear in diverse ways, such as electronic equipment, housework, or peer influence, as pointed out in studies. In particular, the vast number of distractions and temptations, from smartphones and laptops accessed anytime and anywhere, even during classroom exposures (Svartdal et al., 2020) can have effects on academic procrastination.

Although students perceive that they have a certain autonomy and self-regulation in their studies, they readily get distracted by social media. The distraction caused using social media during classes and at home during studies stimulated from conscious and unconscious decisions of academics, which offers instant rewards in the form of instant communication, social networks, news, or entertainment (Labar & Tepordei, 2019; Troll et al., 2020). Procrastinating students commonly show poor time management skills, but may be tempered by self-efficacy, perseverance, and sensitivity to social temptations (Grunschel et al., 2018). Therefore, using mechanisms of self-regulation and self-control, students take advantage of these elements as learning allies that previously promoted distractions, mediating distraction factors in a balanced way. The adoption of these measures may perfect self-regulated learning.

Although earlier works on the subject found in the scientific literature, the subject is still little explored in terms of attention self-regulation habits, perceived in the same public, from a subjective perspective of the researched. Labăr and Țepordei (2019), recommend the implementation of comprehensive models and Troll et al. (2020) suggest the application of recent studies that systematically assess the attributes that affect procrastinating behavior. Another gap found is that most the studies found use quantitative methods, so a qualitative approach research can supply new contributions. Finally, another gap in the literature is that no empirical studies found conducted in an unprecedented context such as the COVID-19 pandemic. In this way, the present study is unprecedented and may contribute to the advancement of knowledge on this subject.

Considering the lack of studies on academic procrastination caused by distractions in the context of social isolation due to the COVID-19 pandemic, this research seeks to answer the following problem: How do master's and doctoral students perceive distraction and distraction mitigation factors about your procrastinating behavior? The present study aims to understand the distraction and attention mitigation factors that influence procrastinating behavior in the postgraduate academic environment.

## 2. Theoretical Approach

### 2.1 Academic Distraction Factors

The sources of distraction, together with individuals, arise in the most varied ways. Domestic activities such as laundry, cleaning and grocery shopping, organizational issues such as rent, organization of documents and insurance, appear as obstacles to prioritizing academic activities. Other sources of distraction that hinder students' focus are WhatsApp messages, fatigue and exhaustion, and lack of enthusiasm for the topic of the activity (Troll et al., 2020).

Individual administrative deficiency also causes moments of distraction, where individuals show an inability to act in a planned and goal-directed sequence, which are essential for the regulation of academic tasks. In addition, distraction focuses on moderate levels of motivation for academic activities. Distraction also appears from negligence, while learning or performing a task, for example, determined individuals have more difficulty keeping focus, causing losses in issues involving academic exercise (Zhen et al., 2020).

Students' attention can be constantly challenged by prolonged changes in the focus of thought in episodes such as waiting for colleagues to respond to a publication on social networks, distraction when listening to sounds or signals from electronic equipment notifications, providing interruption of attention with activities not pertinent to the academic environment (Wu & Cheng, 2019). These are factors that affect physically and mentally academics who have a procrastinating behavior. The distractions of the digital world are more present to academics. The constant presence of mobile devices, together with the accessibility and ease of checking new messages quickly, makes these devices present a direct interference in activities that demand attention and concentration, such as academic activities (Troll et al., 2020). Dependence on mobile devices linked to moderate academic engagement is a psychological and social problem common to students (Zhen et al., 2020).

Easy access to mobile devices, always connected to the Internet, enables an "online" atmosphere, with the constant use and checking of devices. It is common to think that this behavior will also extend to the period of classes. The most disturbing and problematic aspect revealed is that, instead of using digital facilities to improve academic performance and quality, students usually use technological devices for leisure and social purposes (Labăr & Țepordei, 2019).

In addition to the digital universe so present in academic environments, other factors cause academic procrastination, such as dilatory behaviors, lack of punctuality, indecision, and lack of planning (Pestana et al., 2020). When there is a failure in self-regulation, students behave in a self-destructive way, one of which is through procrastination. The delay of important goals may also link to the family environment and individuals of all age groups (Kaftan & Freund, 2018). These and other factors can cause the deregulation of academic behavior.

Greater freedom in the study situation can also use distraction, from poor regulation of tasks, moderate degree of an external structure on the part of the student or insufficient direction on the part of the teachers. Activities with extended deadlines can interfere with the focus of the academic task, causing a greater allocation of time and resources for its completion. One of the disadvantages is that a high demand for resources may delay the start of the task, increasing the probability of the academic giving up (Svartdal et al., 2020).

In addition to prolonged activities, access to distractions and temptations in the academic environment can be harmful for most students, but individually for those who are more prone to distractions (Svartdal et al., 2020). The act of completing a list of assignments or studying for tests will present distant rewards, like a concept grade

at the end of a semester. In contrast, mobile devices present instant rewards from social media, news, communication, movies or television series, entertainment, shopping, or online games (Troll et al., 2020).

Another problem perceived in the limited information for proper self-monitoring by students. Students show a lack of ability while studying, and this is one of the notable reasons for academic procrastination. A probable explanation for the phenomenon linked to the inability to solve activities that present an elevated level of demand. Students are more likely to procrastinate on activities that require high effort (Svartdal et al., 2020).

The low focus on study skills and the respective lack of opportunities to build efficiency represent a problematic connection that could help academics to see school activities as aversive, enhancing the prospect of procrastination. Students conduct academic activities in groups, but times they do not have the essential skills to make group activities effective. Academic colleagues can also cause distractions, influencing procrastinating behavior (Svartdal et al., 2020). Such factors are influences that are related to the study environment. Procrastinating students tend to conduct external and global assignments, regardless of whether their academic performance was positive or not (Grunschel et al., 2018). Although students showed an elevated level of distraction, causing a procrastinating behavior, others already have a certain consistency and focus on activities, fighting the distractions that promote academic procrastination, which will be presented in the next topic.

Based on the systematic review of the literature, whose methodological procedure presented in section 3, Table 1 created, which summarizes the theme of Distraction and divides it in advance into categories, codes and subcodes.

Table 1. Academic Distraction Factors (ADF)

Categories	Codes	Subcodes
Competing Activities (CAT)	Housework (HW)	Cleaning (CL) Laundry (LA) Market Purchases (MP) Rent (RE) Insurer (IN) Document Organization (DO)
	Organizational Issues (OI)	
Physical and Mental Interference (PMI)	Anxiety (AN)	
	Worries (WO)	
	Fatigue (FA)	
	Exhaustion (EX)	
	Self-Destructive Behavior (SDB)	
	Dilatory Behaviors (DB)	
	Indecision (IND)	
	Inattention (INA)	
Dysregulation of Academic Behavior (DAB)	Negligence (NGL)	Prolonged Shift in Thinking Focus (PSTF)
	Smartphone Addiction (SMA)	Read and Reply Private Messages (RRPM)
	Multitasking Phone During Classes (MPDC)	Social Media Notification (SMN)
	Problematic Internet Use (PIU)	
	Delay Important Goals (DIG)	
	Lack of Punctuality (LPT)	
	Lack of planning (LPL)	
Relationship with the Study Environment (RSE)	Freedom in the Study Situation (FSS)	
	Extended Term (ET)	
	Task Aversion (TA)	Lack of Enthusiasm for the Subject of Study (LESS)
	Temptations and Distractions (TD)	Social Media (SM) Movies or TV Shows (MTVS) Online Entertainment (OE) Online Shopping (OS) Electronic Games (EG)
	Limited Information for Proper Self-Monitoring (LIPSM)	
	Lack of Study Skills (LSS)	
	Lack of Effectiveness Building Opportunities (LEBO)	
	Ineffective Group Work (IGW)	
	Peer Influence (PI)	

## 2.2 Academic Distraction Mitigation

Students with high academic perseverance will face the challenges imposed by the activities with greater determination, being able to positively regulate their academic conduct, mitigating their academic procrastination. Academic persistence has a negative correlation with academic procrastination and a positive link with academic engagement. Persistence and academic engagement have positive effects along with the regulation of academic behavior (Zhen et al., 2020).

Concentration while conducting activities is also a self-control factor for students (Grunschel et al., 2018). Goal focus linked to the power of concentration that an individual has when performing a given task (Kaftan & Freund, 2018). Individuals who have greater managed control, visual memory competence during the activity, adequate temporal selectivity, attention capacity and resistance to distraction can present a greater attention ability for long-term tasks (Chan et al., 2017).

Students can show significant improvements along self-regulated learning processes, from the power of concentration, time management, learning environment and goal planning (Grunschel et al., 2018). In addition to the student's awareness of attention, there are also regulatory elements such as the adoption of behavioral strategies and self-assessment of results that help control and regulate the focus of attention of activities (Wu & Cheng, 2019). Students who adopt these measures have satisfactory self-regulated learning.

Based on the systematic review of the literature, the subject of Mitigation of the academic that fights procrastination organized into categories, codes and subcodes (Table 2).

Table 2. Academic Distraction Mitigation (ADM)

Categories	Codes	Subcodes
Regulation of Academic Behavior (RAB)	Academic Engagement (AE)	
	Academic Persistence (ACP)	
AAR - Self-Regulated Learning (SRL)	Concentration During Study (CDS)	Managed Control (MNC)
		Visual Working Memory Capacity (VWMC)
		RD - Resistance to Distraction (RDT)
		Develop Attention (DVA)
	Time Management (TMN)	Temporal Selectivity (TMPS)
	Goal Planning (GPL)	Results Assessment (RSA)
		Behavioral Strategies (BHS)
	Learning Environment (LEN)	Availability of Study Material (ASM)

## 3. Method

The study presents a qualitative approach as it takes place in the everyday environment in its own surroundings (Yin, 2016). The investigation strategy of qualitative research adopted a phenomenological approach, as it seeks to find the essence or understood meanings of the experiences lived on the same phenomenon or theme (Creswell, 2014). The researcher's imaginative change should see the researched phenomenon from different perspectives (Tisdell & Merriam, 2015).

To base the research, a systematic review of the literature (SLR) undertaken. The inverted pyramid of theme definition and delimitation used (Von Hohendorff, 2014). In the RSL protocol, empirical articles in English published in the Scopus and Web of Science databases searched, limiting them to the last five years, from 2017 to 2021. In the Scopus database, we searched for the title of the article, abstract and keywords. In the Web of Science database, the search for topics conducted. The search string used the terms: academic AND procrastination AND (distraction, inattention, sloppiness, hobbies, OR neglect). After applying the inclusion criteria, which consisted of obtaining studies that specifically focused on the theme of academic procrastination and distractions, twenty-nine studies on the subject obtained, of which ten removed because they appeared in both databases. Of the remaining 19, 10 studies removed because they not accessed in full, or the investigated topic was not saw in the text after skimming. Thus, the selection stage resulted in nine studies. The reading of the selected articles guided the research to describe gaps, problems, aims and contributions, collaborating with the construction of the research question and the construction of Tables 1 and 2 already mentioned.

The research universe, at the time of the study, consisted of fifty-seven doctoral and fifty-two master's students enrolled in a postgraduate program at a Brazilian federal university. The study conducted during the COVID-19 pandemic, when students were unavailable for face-to-face meetings due to social isolation. In this way, the

research sample selected for accessibility. This sampling strategy commonly used due to the convenience of accessibility to places or individuals from whom the researcher can collect data and have easy accessibility (Creswell, 2014).

The sampling criterion was the students who attended the courses during the data collection period, except those enrolled in the discipline “Qualitative Methods II” of the doctoral course in Business Administration, since these students were the interviewers who conducted the field research. The study participants are twenty-four students, twelve master’s students representing about 23% of the universe, and twelve doctoral students, corresponding to approximately 21% of the universe. The purpose of using this sampling, by students who took two or more subjects, is due to their direct action together with the activities of their courses, enabling an investigation along with distractions or the mitigation of distractions. In this context, we opted for a research sample selected for accessibility through a sampling of criteria. Criterion sampling chooses situations that meet predetermined criteria (Creswell, 2014).

The main strategy for recruiting respondents was using the WhatsApp application. The channels for data collection used were the online meeting platforms Google Meet and Zoom. The interviews conducted between the 2nd and 8th of August 2021, with an average time of 26 minutes.

To understand the investigated phenomenon and answer the research question, semi-structured interviews applied as a data collection instrument with the students of the Graduate Program. As mentioned, access was online because, in the context of this research, social isolation made face-to-face access impossible for respondents.

The interview script consisted of sixteen open questions on the general theme of Academic Procrastination, but only those most related to the focus of this study were selected: i) Talk about what hindered your focus on academic activities during the pandemic; ii) What helps you to stay more focused in your academic activities, that is, not to lose focus? iii) What measures could be taken to reduce distractions? These questions were based on the studies present in the theoretical foundation presented in the earlier section.

Before going to the field, pilot interviews applied with students from other programs, in the presence of the project’s coordinating teacher. This supplied an improvement in the research script, based on a critical debate of the issues. The experience also served as training for the researchers.

The research followed all ethical precepts, such as a commitment to secrecy, conservation of the total anonymity of the sources and security of the information obtained. It also emphasized that the results would use exclusively for academic purposes and that the limits would and the agreements on how the data obtained from them would use. Confidentiality demands clarity about who may or may not have access to information (Miles et al., 2014).

The transcription of the interviews followed a protocol recommended by Flick (2009) and anonymity guaranteed using codes for each interviewee. Each minute of audio took approximately eight minutes to transcribe. The content of the transcripts of the interviews was the corpus of the study.

The analysis and treatment of the data obtained from a thematic analysis. Thematic analysis allows the researcher to find themes from the feeling of the researched individuals (Creswell, 2014). In a first stage of the analysis, the codification of the transcripts formed and, gradually, a comparison with the earlier categories of the literature obtained. Coding looks to obtain, in a methodical way, a higher conceptual level. Elements that appear or are similar received the same encoding. This conceptualization allowed qualifying the elements of the different interviewees, grouping them similarly or dissimilarly. With the classification, the related attributes of these groupings allowed a better understanding (Yin, 2016).

Coding was based on categories, codes and subcodes of the theoretical foundation, shown in Tables 1 and 2, since a deductive logic used for the process of categorization of the interviewees’ speeches (Miles et al., 2014). In addition to the deductive analysis, it was possible to include an inductive analysis, since, at the time of the analysis, new themes, variables, or concepts appeared. The software used to support the analysis and codification of the study categories was Atlas.TI version 9.

#### **4. Results and Discussion**

The two main themes Academic Distraction Factors (ADF) and Academic Distraction Mitigation (ADM) together generated 583 citations and the identification of sixty-one codes or subcodes. The analysis of each of the main themes will be presented below.

##### *4.1 Academic Distraction Factors (ADF)*

The topic on Academic distraction factors (ADF) had the highest number of citations of excerpts coded in the

study, totaling 449 citations, of which 253 seen among women and 196 among men. Four categories of academic distraction factors found, namely: Competing Activities (CAT), Physical and Mental Interference (PMI), Dysregulation of Academic Behavior (DAB) and Relationship with the Study Environment (RSE). According to Figure 1, the codes listed without highlighting are those found in the interviewees’ speeches and are present in the literature. Emerging codes, not found in the literature, highlighted in green. Codes from the literature, but which not mentioned by the interviewees, highlighted in yellow.

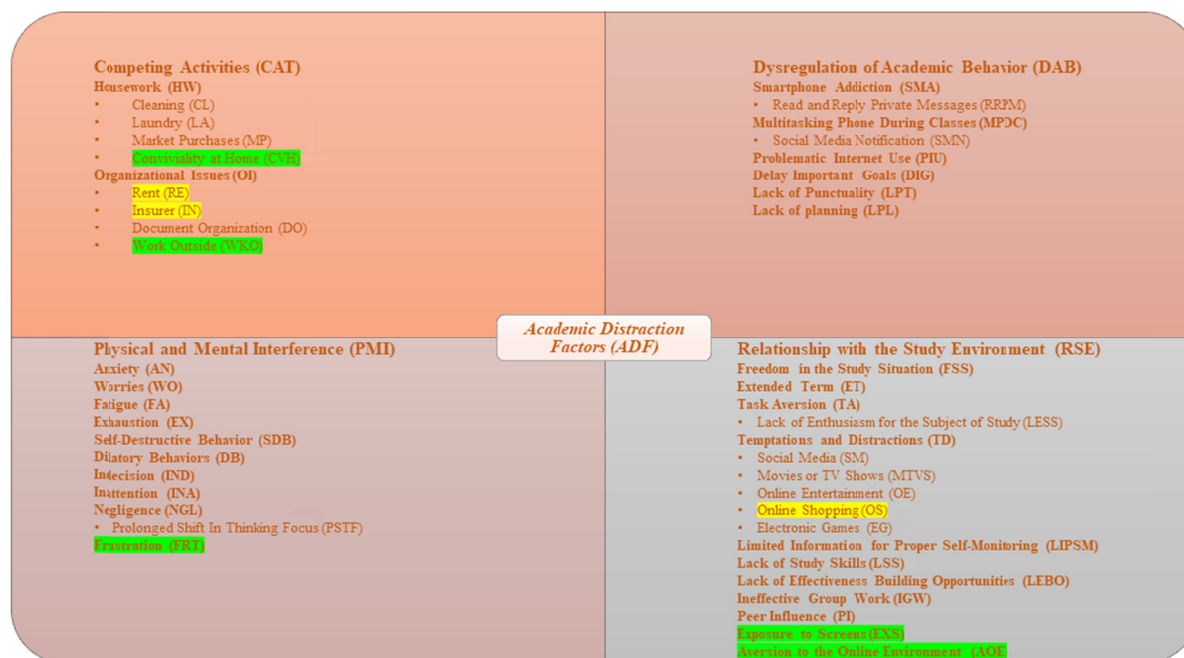


Figure 1. Perceived factors of academic distraction

The category Relationship with the Study Environment (RSE) had the highest number of citations together with Academic Distraction Factors (ADF), totaling 238 citations of coded excerpts, 125 citations by women and 113 by men. The category Competing Activities (CAT) had the lowest number of citations, totaling 130 citations, with sixty-six citations among the female audience and sixty-four citations among the male audience.

#### 4.1.1 Competing Activities (CAT)

The Competing Activities (CAT) category features Housework (HW) and Organizational Issues (OI) codes. The Housework (HW) code includes the subcodes: Cleaning (CL), Laundry (LA), Market Purchases (MP) and the emerging subcode Conviviality at Home (CVH). The Organizational Issues (OI) code, on the other hand, includes the subcodes: Document Organization (DO) and the emerging subcode Work Outside (WKO). The subcodes Rent (RE) and Insurer (IN), belonging to the Organizational Issues (OI) code, not mentioned by any of the twenty-four interviewees.

The Housework (HW) code cited on thirty-two occasions alongside the coded excerpts. Specific citations that included in the subcodes seen in Market Purchases (MP) and Cleaning (CL) with three citations each. The Laundry (LA) subcode appears with a citation. The emerging subcode Conviviality at Home (CVH), incorporated into the Housework (HW) code, appears with forty-four citations along with the coded excerpts. Daily household chores such as cleaning the house or washing clothes were distracting factors along with academic procrastination, as seen in the following statement:

“Yes. Yeah... Because... home office... Then... working at home, stay-at-home spouse, right? Then you must take care of the housework, although thank God you do not have a child yet, right? Because if I did, it would be even worse. I do not know how I was going to take it. But like, like it or not, you must stop, make lunch, then do I do not know what, pack things up, then work, right?” (Interview D6).

It was not just housework that highlighted as a distraction factor. The Conviviality at Home (CVH) appears as an important distraction factor. It even presents an extremely high number of citations of coded excerpts (44 in all).

Living at home appears as a distraction factor along with academic procrastination, as can see in the following speech:

“It got in the way. Because I lived in Natal, so I had to go back home to be with my family. When I lived in Natal, it was quieter there, let us say, because I lived, I lived with other people, but everyone studied, so there was no noise, we understood each other’s routine. Here at home, it is a little difficult for people to understand my routine, there’s always “fun”, television, music, these things. There are always people here at home, so all this disturbs me, even if I try to isolate myself I cannot, I still hear sounds, things like that.” (D3 interview).

Respondents believe that, in addition to household chores, living at home is a distraction factor that can result in procrastination among academics. One of the studies alerted to the incidence of household chores such as laundry, cleaning, and shopping for supplies. However, in this study, the interference of living together with the other inhabitants of the home was not saw (Troll et al., 2020).

The Organizational Issues (OI) code, as well as its Document Organization (DO) subcode, cited twice each, along with the coded excerpts. The subcode Work Outside (WKO), a subcode appearing in the study, presented eighty-seven citations along with the coded excerpts, showing the highest number of citations in the category. The fact of working externally in activities that not linked to the academic environment is a strong academic distraction factor. Interviewees report the interference of Work Outside (WKO) with the academic environment, as can see in the statement:

“I think one of the main ones is that work invades the space that used to be academic.” (D23 interview).

Internal organizational issues such as rent, organization of documents and insurance appear as obstacles to conducting academic activities. But there was no interference from work outside as this obstacle (Troll et al., 2020). Being aware that time is a limited resource, the interviewees presented their difficulties in managing the time required for studying and the time needed for work outside.

#### 4.1.2 Physical and Mental Interference (PMI)

The category that encompasses physical and mental interference is composed of the codes: Anxiety (AN), Worries (WO), Fatigue (FA), Exhaustion (EX), Self-Destructive Behavior (SDB), Dilatory Behaviors (DB), Indecision (IND) , Inattention (INA), Negligence (NGL) which presents Prolonged Shift In Thinking Focus (PSTF) as a subcode, and the Frustration (FRT) code, which emerged in the study.

The code Dilatory Behaviors (DB) presented forty-nine citations of excerpts coded in the study, being the code with the highest number of citations in the category. Dilatory behavior tends to delay or postpone something. In the case of research, this behavior says a postponement of academic activities. Interviewees reported the personal problem they have about delaying the delivery of academic activities, from a simple exchange for other distractions, as highlighted in the statement:

“That’s the famous procrastination, you know?! Because sometimes I get lazy, you know, or sometimes I see that there’s time to do it like there is going to be time, right, I see like “ah there’s going to be time” so I, I do not know, spend Saturday watching TV. And then it usually delayed because of that, like, it is hardly because there is last-minute demand, you know?! Sometimes it can happen, but it is more difficult. The main reason is because I didn’t want to do it and goodbye.” (D9 interview).

There is a predisposition that individuals have for the absence of an active behavior with commitments. This absence in an academic environment can be detrimental to meeting activity deadlines, in a way enhancing academic procrastination (Pestana et al., 2020).

The rise of the Frustration (FRT) code occurred from twenty-three citations of coded excerpts in the research. The feeling of frustration, often reported by respondents, not directly seen in the literature as a distraction factor along with academic procrastination. The following statement reveals the meaning of this code:

“Frustration. That is the main feeling, especially in relation to not delivering what you know you can deliver. Then. It is the main feeling.” (D17 interview).

Frustration, as well as anxiety and fatigue, can also provoke a feeling of impotence in the student, when he realizes that it would be possible to deliver, but he did not. The literature brings the issue of frustration, but from a perspective of banning smartphones in the classroom, and not as something capable of interfering with the delivery of academic activities (Labăr & Țepordei, 2019). Therefore, it understood as a new code.

#### 4.1.3 Dysregulation of Academic Behavior (DAB)

The Dysregulation of Academic Behavior (DAB) category is composed of the codes: Smartphone Addiction (SMA) which, in turn, has the subcode Read and Reply Private Messages (RRPM); the Multitasking Phone During Classes (MPDC) code, which incorporates the Social Media Notification (SMN) subcode; beyond codes, Problematic Internet Use (PIU); Delay Important Goals (DIG); Lack of Punctuality (LPT); and Lack of Planning (LPL).

The code Lack of planning (LPL) presented seventy-two citations of excerpts coded in the study, being the code with the highest frequency of citations within the category. Determined interviewees reported that the lack of planning negatively affects their personal and academic life, as can see in the following statement:

“Look, this affects us because we leave important things for later, things that we think are important, but that we leave for later, and what happens? then it generates, I would put it in quotation marks, a “snowball”, because we leave it for later and later we will have to do that at the last minute, because we... then I need to do it, I will have to do it. This will generate a series of consequences, in terms of well-being, because we are going to do it, after procrastinating, we are going to do that activity, and we are not going to do it calmly, we are not going to feel well, the result will not be satisfactory... so, it is a series of factors that are related. It has a negative impact on both personal and academic life, in terms of results.” (D5 interview).

The non-organization of the execution time of the activities can generate an accumulation of tasks that must be solved in a brief period, leading to the procrastination of the academic activities. The lack of planning stems from a lack of self-discipline necessary to keep focus on a given target task (Pestana et al., 2020). In the case of the study, the target task is the academic activity itself.

#### 4.1.4 Relationship with the Study Environment (RSE)

The category Relationship with the Study Environment (RSE) incorporates the codes: Freedom in the Study Situation (FSS); Extended Term (ET); Task Aversion (TA), this presents the subcode Lack of Enthusiasm for the Subject of Study (LESS); the emerging code Aversion to the Online Environment (AOE); Temptations and distractions (TD) which presents the subcodes Social Media (SM), Movies or TV Shows (MTVS), Online Entertainment (OE), Online Shopping (OS) and Electronic Games (EG); the codes Limited Information for Proper Self-Monitoring (LIPSM), Lack of Study Skills (LSS); Lack of Effectiveness Building Opportunities (LEBO); Ineffective Group Work (IGW); Peer influence (PI); and the emerging code Exposure to Screens (EXS). The emerging codes were Aversion to the Online Environment (AOE) and Exposure to Screens (EXS). The Online Shopping (OS) subcode had no incidence of citations of coded excerpts in the study.

The code Lack of Enthusiasm for the Subject of Study (LESS) had fifty-five citations of excerpts coded in the study, being the code with the highest number of citations in the category. A quantity of interviewees reported having greater difficulty with specific topics to the detriment of others, delaying the activities they have the greatest aversion to as saw in the speech:

“I try, for example, as I have two disciplines, [pause] TeacherX’s materials from DisciplineX are to be delivered on Monday and TeacherY on Tuesday, so I always try [pause] I prioritize TeacherY’s, to For me it’s simpler [laughs] because I have a little difficulty with TeacherX, because it’s theory, I don’t identify with it very much.” (D3 interview).

It seen that the difficulty or non-identification with a specific type of content causes an aversion that can lead to a procrastinating behavior. The lack of enthusiasm for the subject of study seen from a feeling of discouragement (Troll et al., 2020). In addition to the lack of enthusiasm for the topic, interviewees pointed out their aversion to the online environment, thus generating a code that not found in the literature. The code Aversion to the Online Environment (AOE) presented fifty-four citations of excerpts coded in the research. Interviewees pointed out the difficulty of learning in the online environment, as saw in the statement:

“But my learning totally affected in this process, I did not... I did not learn as much as I would like to. I think that if I had it in face-to-face teaching, I would be absorbing much more, because, in distance learning, you have more factors that interfere with your attention, interfere with your learning, than in face-to-face learning. This ends up interfering so, right?” (Interview D1).

A part of interviewees pointed out the difficulty of adapting to the change from the face-to-face environment to the online environment, including reporting the difficulty in absorbing knowledge, reporting external factors that directly interfere with attention. Individuals with a procrastinating profile are notably vulnerable to atmospheres full of temptations, as these environments capture attention and divert behavior towards actions of immediate pleasure (Svartdal et al., 2020). Another issue that linked to the online environment, appearing among the



interviewees, focuses on exposure and contact with the computer screen, supplying the rise of a new code. This code Exposure to Screens (EXS) reported in six coded snippets in the study. One of these reports can below:

“I think it’s terrible, I couldn’t get used to this method the distance is [pause] I think, I feel a little confused, for example, to present on the computer, talk to the computer, I think that’s horrible [pause] also the meetings with my classmates, it doesn’t work either, I don’t know if it’s because I never lived that moment from a distance, I always, always studied face-to-face, I still couldn’t get used to all of this.” (D3 interview).

Interviewees report the difficulty of interacting with the computer for the elaboration of academic activities. There is earlier research that points to the connection of procrastination with contact with computers, but in another aspect, such as when seeing social media notifications (Wu & Cheng, 2019). However, it does not present the issue of the difficulty of exposing the computer screen to the moment of learning in the academic environment, as it appeared in our research, through remote teaching.

#### 4.2 Academic Distraction Mitigation (ADM)

Two categories found that explain Academic Distraction Mitigation (ADM): Regulation of Academic Behavior (RAB) and Self-Regulated Learning (SRL). The topic Academic Distraction Mitigation (ADM) totaled 287 citations of coded excerpts, with 161 citations by women and 126 citations by men. According to Figure 2, following the same pattern as the earlier illustration, the codes listed without highlighting are those present in the literary review, and found in the interviewees’ speeches. Emerging codes, those not found in the literary review, highlighted in green. Codes from the literature, but which not mentioned by the interviewees, highlighted in yellow.

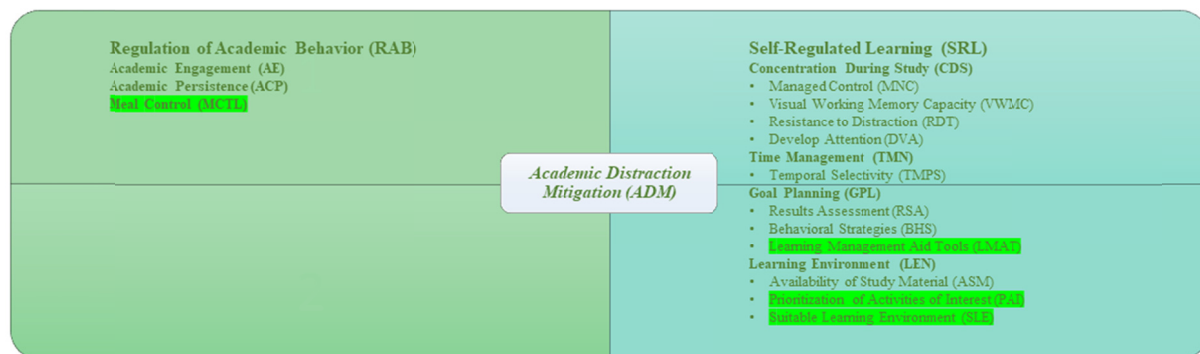


Figure 2. Perceived factors that mitigate academic distraction

The Self-Regulated Learning (SRL) category had the highest number of citations along with Academic Distraction Mitigation (ADM), totaling 280 citations of coded excerpts, with 156 citations from the female audience and 124 from the male audience. The Regulation of Academic Behavior (RAB) category had a lower number of citations, totaling thirty citations, with seventeen citations among the female audience and thirteen citations among the male audience.

##### 4.2.1 Regulation of Academic Behavior (RAB)

The Regulation of Academic Behavior (RAB) category is composed of the Academic Engagement (AE) codes; Academic Persistence (ACP); and the emerging code Meal Control (MCTL). The Academic Engagement (AE) code presented twenty-three citations of excerpts coded in the research, being the code with the highest number of citations in the category. A fraction of respondents believe that personal initiatives can combat environmental distractions, so inhibiting academic procrastination. These initiatives appear in the following speech:

“Because, as I said, for you to be responsible, there is no physical mechanism, it is something inside the individual, isn’t it? ...The responsibility I have in fulfilling my word, my tasks I associate with my word that I gave, and I remember the pleasure I feel when I deliver, it is a very pleasure, it is a very great achievement.” (D12 interview).

Academic engagement, as a pleasurable activity factor, may reduce the interference of distractions, collaborating with self-regulation and, so, minimizing the impacts of eventual academic procrastination. People with high academic engagement tend to have greater confidence in their studies. These usually persist in facing academic

difficulties, regulating their behaviors and emotions, with the aim of overcoming any negative experiences in the academic field (Zhen et al., 2020).

The code Meal Control (MCTL) alimnt appeared from two different interviews, deriving in the coding of the excerpts along with the study. One of these two speeches presented the following transcription:

“It is, uniquely and exclusively, like this... being and a cup of coffee is what my formula is today. I always leave it to do my activities after having a meal, like, so as not to be in danger of you, in the middle of your work, you start, ah, but if I go to the fridge to get something to eat? and if I get it... because this is nothing more than you activating ways to stop what you are doing to, like, leave it for later, right? So, I always eat, and I already bring water, coffee and I already leave it on my counter, like, I will not get up until I finish. For me, it has been my little formula, like that, and it is working, my way, but it is working.” (Interview D1).

It perceived that an adequate study environment, together with good nutrition, and easy access to the necessary resources, can mitigate distractions. Study environment management recommended as a good self-motivation strategy, capable of reducing academic procrastination (Grunschel et al., 2018).

#### 4.2.2 Self-Regulated Learning (SRL)

The Self-Regulated Learning (SRL) category encompasses four codes: the first is Concentration During Study (CDS), which comprises the subcodes Managed Control (MNC), Visual Working Memory Capacity (VWMC), Resistance to Distraction (RDT) and Develop Attention (DVA); the Time Management (TMN) indicator incorporates the Temporal Selectivity (TMPS) subcode; the third code is Goal Planning (GPL), incorporating the subcodes Results Assessment (RSA), Behavioral Strategies (BHS), and the emerging subcode Learning Management Aid Tools (LMAT); finally, the Learning Environment (LEN) code incorporates the subcodes Availability of Study Material (ASM), and the new subcodes Prioritization of Activities of Interest (PAI) and Suitable Learning Environment (SLE).

The Time Management (TMN) code presented 131 citations of coded excerpts in the study, supplying the highest number of citations not only in the category, but in the entire research. For a considerable number of respondents, time management is a determining factor for controlling and, in a way, reducing procrastination, as can see in the statement:

“We have a greater maturity as a researcher to develop our activities, but I organize myself based on procrastination too; I learned to put procrastination in my study schedule. So, I know I must have time for it to exist, because I know it will happen, whether I like it or not, it will exist. So, I give space for it to have time to exist, and based on that, I understand that afterwards I have a very accelerated pace of production.” (D20 interview).

Enjoyable time management, with designation of leisure time and activities, can significantly reduce, as seen in the speech, procrastination in the academic environment. Establishing study schedules reduces academic procrastination, improving self-regulated learning processes (Grunschel et al., 2018). In addition to time management, the aid of tools can contribute to the mitigation of academic distractions, according to the analysis of the subcode Learning Management Aid Tools (LMAT), incorporated together with the Goal Planning (GPL) code. This presented fifty-seven citations of excerpts coded in the study. Interviewees pointed out the importance of using a tool that helps in meeting study goals, as saw in the statement:

“So, tools I use, I use Trello, Asana, Google Calendar, I use Excel too, because sometimes I must do, so I make a little list in Excel, it helps me. In the past, I used a physical Kanban, with “post-it”, I pasted it, that was interesting. Try to bring a visual, follow-up, prioritization approach to actions, which is important.” (D14 interview).

The aid of tools, whether technological or not, can collaborate with the organization, planning and execution of academic activities to minimize the procrastinating effects to the extent that the tool itself will serve as a supervisor of the individual's actions. Academic procrastination is the result of deregulation. This happens when individuals do not have clear and consistent goals, when they cannot organize their actions (Grunschel et al., 2018). Against the grain of this deregulation, the learning management aid tools, in a way, supply an organization of goals and actions of academic activities.

The new subcode Prioritization of activities of interest (PAI), which incorporates the Learning Environment (LEN) code, presented seventy-four citations of coded excerpts in the search. A part of respondents said they prioritize activities over others, as noted in the report:

“For example, there is a discipline that is just reading text and discussing it in the classroom, that for sure for me, you know, it gets in the way, I will leave it for later. I will find a way, you know, of ‘not later, closer to class’, but when it is a subject where we must be more active, there are more activities, then procrastination really decreases for me.” (D8 interview).

It seen that a greater demand on the part of a specific academic content will demand a differentiated attention from the student, so, it will minimize distractions and mitigate academic procrastination. Individuals surveyed showed a better focus of attention when compared to individuals from another group in the same study. This differentiated focus of attention between individuals can be due to the prioritization of activities that, for reason, will have a greater application by the academic (Chan et al., 2017).

The new Appropriate Learning Environment (AAA) subcode incorporates the Learning Environment (LEN) code. This presented forty-three citations of excerpts coded in the study. Although the study took place during a period of social isolation, with classes taking place remotely, respondents showed a good adaptation to the virtual class environment, as can see in the following statement:

“As I was already in this remote format, like learning English, so I used to, let us say, not meeting the people I take the course, right? In the case of English, which I did last year, it was the entire year in a remote format, and we had a face-to-face meeting. That is where everyone met and everything...but it was just that meeting. And then, when I started the master’s degree, I did not feel, like, this glaring difference of being in a virtual classroom with people and not having physical contact with them. So, for me, it was not a shock to be learning inside a virtual room without having ever seen them, because I already had this learning experience for the entire last year, right?” (D10 interview).

The earlier experience of a similar learning environment may ease the student’s adaptation, reducing the impacts of change, so perfecting the student’s environment. Another study understood who had the best adaptation to online learning, within their own personal learning environment (Wu & Cheng, 2019). However, the suitability of this environment not considered, where learning environments may be more conducive or better adaptable for individuals than others.

## 5. Conclusions

The present study aimed to understand the distraction and attention mitigation factors that influence procrastinating behavior in the postgraduate academic environment. The qualitative analysis of the interviews showed that the same individuals can present distraction factors and self-regulation habits, or mitigation of these distractions. The elaboration of a framework, uniting themes/concepts about the Factors of academic distraction and Mitigation of academic distraction, based on the literature review, provided a detailed analysis along with the twenty-four interviews, generating 583 citations, from six categories that supplied the identification of sixty-one codes or subcodes.

The lack of planning and work outside presented as major complicating factors that lead to greater academic procrastination. On the other hand, enjoyable time management and the use of learning management aid tools were good allies of self-regulation in mitigating the distractions of academic procrastination, corroborating the literature.

In the exploration of the data, all the earlier categories of the framework corroborated by the data obtained in the research. At the same time, four codes inductively emerged (Frustration, Aversion to the online environment, Exposure to Screens, and Meal Control) and five subcodes (Conviviality at Home, Work Outside, Learning Management Aid Tools, Prioritization of activities of interest, and Suitable learning environment), with three codes and two subcodes linked to academic distraction factors and one code and three subcodes linked to Mitigation of academic distraction. Only three subcodes (Rent, Insurance and Online Shopping) of the conceptual framework did not present citations of coded excerpts.

Based on understanding the distracting factors that enhance academic procrastination, also analyzing the factors that slow down procrastinating behavior, graduate programs will be able to use the results of this research to develop campaigns and policies to reduce academic procrastination with students. your students.

One of the limitations of the study is due to the way in which the interviews were carried out, which, although it was softened by the synchronous meetings in an online environment, did not allow the capture of some instinctive reactions on the part of the interviewees, considering that many chose to keep the cameras turned off during interviews. The interference and loss of connections during the interviews caused damage to the quality of the answers since the interruption of reasoning can disturb the content of the answers. Another limitation was the restriction of the search for work only on the Scopus and Web of Science platforms, in a limited period

between 2017 and 2021, in addition to the limitation of studies written only in the English language. Other research sources with greater capillarity, such as Google Scholar and Microsoft Academic, as well as studies written in other languages, forming other periods of publication, could broaden the horizons of the study.

It suggested for future research the replication of the framework which enriched with the findings of new codes and subcodes that appeared in this study, together with a different universe, to corroborate the results or develop new theories.

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