AMERICAN UNIVERSITY OF BEIRUT

ACADEMIC PROCRASTINATION AND ITS CORRELATES AMONG CANDIDATES OF THE LEBANESE BACCALAUREATE PROGRAM: ACADEMIC SELF-EFFICACY AND ACADEMIC ACHIEVEMENT

by
SILINE W. ITANI

A thesis
submitted in partial fulfillment of the requirements
for the degree of Master of Arts
to the Department of Education
of the Faculty of Arts and Sciences
at the American University of Beirut

Beirut, Lebanon
May 2019

AMERICAN UNIVERSITY OF BEIRUT

ACADEMIC PROCRASTINATION AND ITS CORRELATES AMONG CANDIDATES OF THE LEBANESE BACCALAUREATE PROGRAM: ACADEMIC SELF-EFFICACY AND ACADEMIC ACHIEVEMENT.

by

SILINE W. ITANI

Approved by:

V Kh

Dr. Vivian Khamis, Professor — Advisor
Department of Education

Dr. Karma El-Hassan, Associate Professor — Member of Committee
Department of Education

Anies Al-Hroub

Dr. Anies Al-Hroub, Associate Professor — Member of Committee
Department of Education

Date of thesis defense: April 2, 2019.

AMERICAN UNIVERSITY OF BEIRUT

THESIS, DISSERTATION, PROJECT RELEASE FORM

Student Name: Itani (Last) Siline (First) Wissam (Middle)

☑ Master's Thesis ○ Master's Project ○ Doctoral Dissertation

☑ I authorize the American University of Beirut to: (a) reproduce hard or electronic copies of my thesis, dissertation, or project; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes.

☐ I authorize the American University of Beirut, to: (a) reproduce hard or electronic copies of it; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes after : **One ---- year from the date of submission of my thesis, dissertation, or project.**
Two ---- years from the date of submission of my thesis, dissertation, or project.
Three ---- years from the date of submission of my thesis, dissertation, or project.

May 3, 2019

Signature Date

ACKNOWLEDGEMENTS

Him and *His* people.

AN ABSTRACT OF THE THESIS OF

Siline Wissam Itani for Master of Arts

Major: Educational Psychology

Title: Academic Procrastination and its Correlates among Candidates of the Lebanese Baccalaureate Program: Academic Self-Efficacy and Academic Achievement

Academic procrastination is a widespread dysfunctional behavior among students, invariably affecting their academic achievement and psychological wellbeing. This quantitative study investigated the relationships between academic procrastination and each of academic self-efficacy and academic achievement among candidates of the Lebanese Baccalaureate Program (LBP). This study attempted to extend the existing international literature and address a gap in the literature studying academic procrastination, academic self-efficacy, and academic achievement in Lebanon. It also tried to contribute to understanding the unresolved disagreements on the relationships between academic procrastination and each of academic self-efficacy and academic achievement among students. The sample consisted of 328 LBP candidates for the academic year of 2018-2019. The study drew on data collected from the participants' first school semester averages as well as their scores on two scales, namely the Academic Self-Efficacy Scale and the Academic Procrastination Scale. The data collected were entered on the Statistical Package for Social Sciences (SPSS) software for analysis. Chi-Square Test was conducted to determine whether low and high academic procrastinators differed significantly at the levels of their academic self-efficacy and academic achievement, while simple linear regression was done to examine the relative contribution of academic self-efficacy to academic procrastination and the relative contribution of academic procrastination to academic achievement. Results converged to significant differences between low and high academic procrastinators at the levels of their academic self-efficacy as well as academic achievement. High academic procrastinators had significantly lower levels of academic self-efficacy and academic achievement compared to low academic procrastinators. Findings as well helped confirm having academic self-efficacy a predictor of academic procrastination and having academic procrastination a predictor of academic achievement among LBP candidates. In addition, a significant negative relationship was found between academic procrastination and each of academic self-efficacy and academic achievement. Recommendations for future research and practice were communicated to help address academic procrastination and its correlates among learners.

CONTENTS

Tables

To every *Imperfect Creation* seen as deserved by *The Perfect Creator*.

CHAPTER I

Introduction

Background

Is it possible to survive in a human body that "crams" the synthesis of red blood cells? Could it be possible for a solar system to thrive if planets "put off" orbiting the sun? Will there be life on earth if water "delayed" its cycle for the next decade? Seemingly, nature does not procrastinate, but procrastination has been associated much with human nature. Procrastination is an ever-present dysfunctional behavior that dates its existence to 2.5 million years ago (Knaus, 2000) and possibly long before.

In our modern times, on one of the platforms of social media – Facebook – there are numerous meme pages that mock students' struggles; much of the shared memes revolve around procrastination and its drawbacks on students. On one of the public Facebook pages titled *Student Problems* – with 8.7 million users liking this page and 9.1 million users following its feed by January 8, 2019 – memes on procrastination have been frequent. Facebook users much reacted, shared, and mentioned their Facebook friends to check these memes for they are relatable. For instance, a meme was uploaded on November 8, 2017 captioned "the four stages of realization that you have left your assignment too late". The first stage shows a person with a nervous smile which ultimately fades in the second stage. During the third stage, however, the person places tea bags on his eyes as an attempt to escape reality and eventually in the fourth stage, he lays his head down on the desk in despair. By November 10, 2017 there were 39,000

reactions, 3,327 shares, and 8,200 comments on this post (Student Problems, 2017a). By January 8, 2019, Facebook users' interactions with this post sprung up to 55,000 reactions, 5,408 shares, and 21,000 comments. This page also took the term procrastination as a root and derived words from it such as "procaffeinating" meaning "the tendency not to start anything until you've had a cup of coffee" (Student Problems, 2017b). Amidst these jokes and laughter, the bitter truths and the aftermaths of procrastination persist.

Statement of the Problem

At the academic level, students tend to procrastinate writing their term papers, studying for exams, and keeping up with weekly readings (Solomon & Rothblum, 1984). Procrastination has also been associated with various correlates that negatively impact students' learning. To name a few, procrastination has been associated with low grades (Hussain & Sultan, 2010; Klassen, Krawchuk, & Rajani, 2008; van Eerde, 2003), lack of punctuality, disorganized study schedule (Solomon & Rothblum, 1984), and delays in preparing and submitting assignments and presentations (Hussain & Sultan, 2010).To add on, academic procrastination has been associated with various forms of academic misconduct such as plagiarism and copying from classmates during exams (Patrzek, Sattler, van Veen, Grunschel, & Fries, 2015). Academic procrastination was also strongly associated with the usage of fraudulent excuses to conceal one's delay and gain extra time to complete the assigned academic work (Patrzek et al., 2015). Moreover, the drawbacks of students' procrastination extend beyond the school setting to impact their psychological wellbeing at large (Hussain & Sultan, 2010; Kandemir, 2014; Steel, 2007).

At the psychological level, procrastination has been associated with poor communication skills, frustration, anxiety (Solomon & Rothblum 1984), test anxiety, weekly state anxiety,

weekly anxiety-related physical symptoms (Rothblum, Solomon, & Murakami, 1986), depression (Solomon & Rothblum, 1984; van Eerde 2003), low self-esteem (Solomon & Rothblum, 1984; Steel, 2007), irrational cognitions (Solomon & Rothblum, 1984), fear of failure (Ozer, Demir, & Ferrari, 2009; Solomon & Rothblum, 1984), self-handicapping (Ferrari, 1991), and psychological vulnerability (Kiamarsi & Abolghasemi, 2014). Procrastination exacerbates to induce fear of examination which leads to depression, anxiety, and lowering of one's morale (Hussain & Sultan, 2014). Procrastination can also negatively impact learners' general life satisfaction as well as their levels of hope (Kandemir, 2014). To add on, procrastination was strongly associated with impulsiveness and consciousness and its facets of self-control, distractibility, organization, and achievement motivation (Steel, 2007). Similarly, high levels of procrastinatory cognitions were associated with low self-actualization and feelings of being impostors (Flett, Stainton, Hewitt, Sherry, & Lay, 2012). It was emphasized that the more the individuals experience these procrastination-related cognitions, the more psychological distress and stress they are likely to have (Flett et al., 2012).

Thus, due to the plethora of drawbacks of procrastination on the academic as well as psychological wellbeing of students, academic procrastination – procrastination studied in the academic setting – poses a significant psycho-educational problem that should be addressed. Despite its widespread and pernicious aftermaths, there was not found a study in the realm of procrastination and its correlates that was conducted in Lebanon. With further precision, even though the academic domain is amongst the most frequently studied domains of procrastination, there was not found a study that addressed academic procrastination on a sample of learners in Lebanon. This gap in the literature created a need to conduct a study that targets the abovementioned psychoeducational problem on an unstudied population – the population of

learners in Lebanon. From this population of learners in Lebanon, the Lebanese Baccalaureate Program (LBP) candidates – 12th graders – were of interest to this study for the following reasons. These LBP candidates are subjected to high stakes official examinations that are comprehensive in nature; the examinations require students to master an array of contents/skills across different subjects. In order to meet the deadlines for these examinations (i.e. avoid academic procrastination) having mastered all of the assessed contents, to academically achieve, students are expected to have high academic self-efficacy – self-efficacy exhibited in the academic setting – along with other skills and beliefs. These peculiar constructs of academic self-efficacy and academic achievement have been innumerably associated with procrastination in the academic setting. The findings and data of these relationships, however, were neither obtained from a sample of LBP candidates nor from learners in Lebanon at large. Thus, (1) the significance of academic procrastination, (2) the underrepresentation of learners in Lebanon in the literature on academic procrastination, (3) the significance of academic self-efficacy and academic achievement to academic procrastination and LBP candidates combined necessitated this study.

In the light of the concluded necessity, the purpose of this study was three-fold: the first was to investigate the relationship between academic procrastination and each of academic self-efficacy and academic achievement to determine whether or not high and low academic procrastinators differ significantly at the levels of their academic self-efficacy and academic achievement, the second was to investigate whether or not academic self-efficacy is a predictor of academic procrastination for LBP candidates, and the third was to investigate whether or not academic procrastination is a predictor of academic achievement for LBP candidates.

Research Questions

In this study, the following research questions were addressed:

1) Are there any significant differences between low and high academic procrastinators on academic self-efficacy?
2) Are there any significant differences between low and high academic procrastinators on academic achievement?
3) Is academic self-efficacy a predictor of academic procrastination among candidates of the Lebanese Baccalaureate Program?
4) Is academic procrastination a predictor of academic achievement among candidates of the Lebanese Baccalaureate Program?

Rationale

While previewing the international literature, it has been noted that countless studies have been done to investigate the relationships between procrastination and each of self-efficacy and academic achievement. Across this literature, most of the data on procrastination were drawn from English speaking countries, of which 65% of the findings were collected from the United States (Gropel & Steel, 2008). Conversely, the Arabic speaking countries'/Arab World's contribution to the literature is significantly less than that of the English Speaking/Western countries – the studies done on procrastination in the Arab World are infrequent. Likewise, Al-Sirhan and Sawalha (2017) voiced that the studies done on procrastination and its correlates are scarce in the Arab region and that future research is needed to understand procrastination and its correlates in this context. Along this body of international literature and based on the co-investigator's humble knowledge, there was not found a sole study on procrastination and any of its correlates in the context of Lebanon – an Arabic speaking country marked on the map of the

Arab World. Therefore, the first fold of the rationale was to extend the existing international literature and address the gap in the literature studying academic procrastination, academic self-efficacy, and academic achievement in Lebanon.

Somehow, there are disagreements in the literature on the relationships between procrastination and each of self-efficacy and academic achievement when studied in the academic setting. To start with, in his meta-analytic and theoretical review of procrastination, Steel (2007) identified a strong negative correlation existing between procrastination and self-efficacy. This in return opens up the possibly of having academic procrastination and academic self-efficacy negatively associated in the context of Lebanon as well as having the high academic procrastinators reporting lower levels of academic self-efficacy in a sample of LBP candidates. On the other hand, some learners with high self-efficacy procrastinate for they overestimate their ability in completing a task promptly (Bandura, 1997 & Pajares, 1996, as cited in Sokolowska, 2009, p. 20). In the same vein, some procrastinators maintain their positive self-image and avoid punishment by engaging in: excuse making, rationalizing, denying, minimizing significant problems, ad hominem arguments, distorting reality, and maintaining manana illusions (Knaus, 2000). The manana illusions are one of the constituents of the mental diversionary activities that procrastinators engage in. These mental diversionary activities encompass *manana ploy* by which individuals tell themselves that they will do it better later, and *contingency manana ploy* when individuals tell themselves that they have to do something else first (Knaus, 2000). All of these irrational cognitive signatures contribute to procrastination and might as well impact one of its strongest correlates – self-efficacy. Some high academic procrastinators might be deluded to believe that they have high academic self-efficacy and that they can do it better later or after doing something else first. These cognitive distortions and delusions might be further reinforced

by the temporary fallacious rewards highlighted by Knaus (2000) such as exoneration from blame, relief from tension, and false optimism. Other short term benefits for procrastinators could be experiencing less stress and having better physical health compared to non-procrastinators – as long as the deadlines were not approaching (Tice & Baumeister, 1997). These short term benefits in return might compile with time and instill in academic procrastinators faulty beliefs about themselves such as being learners with high academic self-efficacy; thus, having them score high on both academic procrastination and academic self-efficacy. Analogously, it could be possible to have learners who score high on both academic self-efficacy and academic procrastination and corroborate to the argument of having academic self-efficacy and academic procrastination positively associated – especially if the study was conducted in an unstudied context. On the other hand, procrastination and self-efficacy can be insignificantly associated. For instance, Sirin (2011) reported that academic procrastination and academic self-efficacy were not significantly correlated on a sample of 774 university students in Turkey. In the same context and in a study done earlier by Aydogan (2008), a significant relationship between academic procrastination and self-efficacy belief was not found (as cited in Sirin, 2011, p. 452). Thus, it could also be probable to have an insignificant relationship between academic procrastination and academic self-efficacy among LBP candidates. Having stated this, academic procrastination and academic self-efficacy could be either negatively, positively, or insignificantly related in a sample of LBP candidates.

This disagreement was also found in the literature investigating the relationship between procrastination and academic achievement. At one end of the spectrum of the relationships between procrastination and academic achievement, researchers concluded that the two constructs are negatively related: the more the students procrastinated, the less likely they were

to academically achieve. Similarly, in his meta-analytic and theoretical review of procrastination, Steel (2007) concluded that procrastination and academic achievement are weakly yet consistently negatively correlated. Steel highlighted that "procrastination is usually harmful, sometimes harmless, but never helpful" (Steel, 2007, p. 80); thus, it is often unconducive to learning and achievement. Along the same line and in a more recent meta-analysis done on procrastination and academic performance, Kim and Seo (2015) reported that procrastination and academic performance are negatively correlated. They also stated that the relationship between procrastination and academic performance is impacted by the demographic characteristics of the participants as well as the choice of indicators. Consequently, it could be possible to have a similar or a different relationship between academic procrastination and academic achievement in the new context of Lebanon while using infrequent indicators of both constructs. At the other end of the spectrum and upon previewing studies of Chu and Choi (2005), Schraw, Wadkins, and Olafson (2007), Sokolowska and Zusho (2006), and Subotnik, Steiner, and Chakraborty (1999), Sokolowska (2009) concluded that procrastination is not always associated with negative outcomes; academic achievement is a key learning outcome. Similarly, Tice and Baumeister (1997) highlighted a claim by procrastinators that is: putting the same amount of work on a task far ahead or slightly ahead of a deadline does not affect the quality of work. If we were to generalize from this claim, it could be possible to say that preparing for an exam two weeks ahead or just the night before the exam will not affect the students' performance on it. In other words, whether a student procrastinated or not, s/he will get the same grade on the exam anyway. This in return opens up the possibility of having academic procrastination and academic achievement positively related on the unstudied population of learners in Lebanon. Along the same spectrum, other findings from some studies present an insignificant relationship between

the two constructs. For instance, in a study conducted by Cao (2012), procrastinators and non-procrastinators did not differ significantly at the level of their course grades. However, in Solomon and Rothblum's (1984) study, both high procrastinators and non-procrastinators received high grades. Thus, the possibilities of having academic procrastination and academic achievement as negatively, positively, or insignificantly related are boundless in this context. Having established this, the second fold of the rationale was to contribute to understanding the unresolved disagreement on the relationship between academic procrastination and academic self-efficacy as well as the relationship between academic procrastination and academic achievement.

Moreover, it was established in the literature and in one of the thoroughly synthesized meta-analyses on procrastination that self-efficacy is a strong and consistent predictor of procrastination (Steel, 2007). These self-efficacious learners are learners who believe in their abilities in successfully completing an academic task. They exercise their control in managing their time and efforts until they accomplish the task; perhaps, they engage less in academic procrastination. Having stated this, knowing the learners' levels of academic self-efficacy might predict their levels of academic procrastination. Inversely, other findings disproof having self-efficacy a predictor of procrastination. For instance, Klassen et al., (2008) performed hierarchal regression analysis to conclude that academic self-efficacy was not a significant individual predictor of procrastination among learners. In another study done on 1,145 Canadian and Singaporean university students, academic self-efficacy did not make any significant contribution to procrastination in both contexts (Klassen, Ang, Chong, Krawchuk, Huan, Wong, & Yeo, 2010). On the Turkish population, findings by Kandemir (2014) and Sirin (2011) converged to a similar conclusion of not having academic self-efficacy a predictor of academic

procrastination. On a different population as well, academic self-efficacy was not a statistically significant predictor of academic procrastination for Asian international students enrolled at US universities (Kim, Alhaddab, Aquino, & Negi, 2016). Thus, it could be possible to have similar findings in the context of Lebanon where academic self-efficacy does not predict academic procrastination. Hence, this observed disagreement in the literature further necessitated this study and required checking for prediction in a new context using different indicators.

Moving on to academic achievement, it was often concluded that procrastination predicts academic achievement of learners. Researchers converging to such findings state that knowing the individuals' levels of academic procrastination helps in predicting their academic achievement. To shed light on this, a study that was done in Korea on a sample of 569 university students concluded that academic procrastination significantly predicted academic achievement of learners at four different times over a period of 15 weeks (You, 2015). In another study conducted by Azar (2013), academic procrastination did significantly predict academic achievement of 200 students, whose ages ranged between 17 and 25, in Iran. Likely, Steel, Brothen, and Wambach (2001) measured procrastination on a sample of 152 undergraduates at six time periods during an 11-week introductory psychology course. One of their conclusions was that procrastination is not only a consistent predictor of academic performance but also a "good" one. However, at points procrastination did not significantly predict academic achievement. For instance, in Moon and Illingworth's (2005) study, self-reported procrastination did not predict test performance on a final sample of 303 undergraduate students. In a different study conducted on a sample of Nigerian students, academic procrastination did not contribute to the academic achievement of these participants (Aremu, Williams, & Adesina, 2011).

Accordingly, it might be possible to either succeed or fail in supporting the argument of having academic procrastination a predictor of academic achievement on a sample of LBP candidates. Thus, the third fold of the rationale was to contribute to understanding two unresolved disagreements on having academic self-efficacy a predictor of academic procrastination as well as having academic procrastination a predictor of academic achievement.

Significance

The findings of this study have implications for educational research as well as practice. At the research level, the findings helped in understanding the relationships between academic procrastination and each of academic self-efficacy and academic achievement in the new context of Lebanon. This as a result contributed to understanding the three unresolved disagreements regarding: the relationship between academic procrastination and each of academic self-efficacy and academic achievement, having academic self-efficacy a predictor of academic procrastination, and having academic procrastination a predictor of academic achievement. This study as well contributed to understanding an unstudied population of learners in Lebanon at the levels of academic procrastination, academic self-efficacy, and academic achievement. Likely, it attempted to understand an understudied population of secondary students (Kim & Seo, 2015) at times where most of the existing international literature focused on studying university/college students (Klingsieck, 2013a). Consequently, this all extended the existing international literature and addressed the gap in the literature studying academic procrastination, academic self-efficacy, and academic achievement in Lebanon. Likely, the limitations of this study as well as recommendations for future research were communicated to better inform researchers who seek to study academic procrastination and its correlates in this realm.

Contributing to the literature is not sufficient for the ultimate aim of research is to yield findings and recommendations that enhance practice. Thus, at the level of practice, this study attempted to better inform schools, universities, Ministry of Education and Higher Education (MEHE), and Center for Educational Research and Development (CRDP) in Lebanon on how the topics addressed – academic procrastination, academic self-efficacy, and academic achievement – and the relationships investigated relate to learners. Being informed entails having these stakeholders take the necessary actions – some of which were communicated in this study.

CHAPTER II

Literature Review

Introduction

Procrastination could be defined as a maladaptive behavior during which individuals delay a task. A comprehensive compilation of the existing figures on procrastination was done by Steel (2007). According to Ellis and Knaus (1977) and O'Brien (2002), 80% - 95% of college students engage in procrastination, while Potts (1987) reported that around 75% of college students identify themselves as procrastinators (as cited in Steel, 2007, p. 65). Procrastination being much frequent and widespread, it was established as a significant problem for undergraduate students in America (Janssen, 2015) and is mostly experienced in the academic life domain (Klingsieck, 2013b).

This chapter presents an overview of procrastination across history and in the Arab World. It also presents the major perspectives on procrastination and grounds the study's perspective in two of them. Afterwards, this chapter further conceptualizes academic procrastination (typology, categorization, definition, and tools) and each of academic self-efficacy and academic achievement (their relationships with academic procrastination and tools).

Historical Glimpse of Procrastination

Procrastination is not the century's revelation, citations on procrastination stretch back to more than 3,000 years (Steel, 2007) and even to 2.5 million years (Knaus, 2000). However, upon discussing the topic of procrastination with a history and archaeology professor and another

anthropology assistant professor at AUB circa 2017, the following was concluded. From a historical and archeological perspective, it would not be possible to address all of the historical eras to track procrastination, because it is a lengthy process that is beyond the scope of this study. From an anthropological perspective, it is not even possible to track the development of procrastination for it has not been much addressed and systematically studied by anthropologists and sociologists. However, it could be possible to make some inferences about procrastination across scriptures from various genres, historical events, and research studies. This eclecticism of providing snippets of procrastination was done to highlight the existence of this phenomenon as of prehistory and have it persistent till this day.

To start with, the epic of Gilgamesh from the Mesopotamian civilization implicitly addressed procrastination. In the epic, a woman was brought to lure Enkidu – a man that grew up in the wilderness – to lessen his untamed savageness. The woman was urged not to *delay* [emphasis added] but welcome the love of Enkidu, and so she did (Sandars, 1973). In the same Mesopotamian era, the Babylonian leader Hammurabi had developed the first code of law in history, and in one of his 283 codes, he penalized for procrastination since it was an unnecessary *delay* [emphasis added] with drastic consequences (Knaus, 2000). Afterwards, Ancient Egyptians amidst the 18th Dynasty suffered from procrastination; this was found upon translating a hieroglyph by an Egyptologist to English (Steel & Klingsieck, 2015). The hieroglyph stated "Friend, stop *putting off* [emphasis added] work and allow us to go home in good time" (Konnikova, 2014; Steel & Klingsieck, 2015). Later on, the phenomenon of procrastination has been presented in some of the literary work of Ancient Greeks. An ancient Greek poet, Hesiod, wrote the poem "Work and Days" where he advised by "*Do not put your work off till tomorrow and the day after* [emphasis added]; for a sluggish worker does not fill his barn, nor one who

puts off his work: industry makes work go well, but a man who *putts off work* [emphasis added] is always at hand-grips with ruin" (Hesiod, 1914, p. 8).

Then, with the rise of the first monotheistic religion and in the second book of Torah, a verse highlighted the importance of giving the offerings on time while avoiding procrastination. The verse stated: "You shall *not delay* [emphasis added] to offer from the fullness of your harvest and from the outflow of your presses. The firstborn of your sons you shall give to me*"* (Exodus 22:29, English Standard Version). Successively, in the second monotheistic religion of Christianity, one of the verses highlighting the urge of abstaining from delay was "We must *quickly carry out* [emphasis added] the tasks assigned us by the one who sent us. The night is coming, and then no one can work" (John 9:4, New Living Translation). In the same era of the Roman reign, Marcus Aurelius warned his people against unnecessary delay. One of Aurelius' sayings regarding procrastination was "Remember how long you've been *putting* this *off* [emphasis added], how many extensions the gods gave you, and you didn't use them." (Aurelius, 2002, p. 92).

Besides, during the period of Al Jahiliyya [Age of Ignorance], a man from Arabia named Urqub was known for constantly breaking his promises by delay. Arabs and their poets such as Kaab Bin Zuhair and Al-Ashjai referred to Urqub as an example to highlight delays. A more contemporary Arabic proverb of "لا تأجل عمل اليوم إلى الغد" [Don't put off today's work for tomorrow] highlights the importance of avoiding delay by working on a daily basis. Successively in Arabia, after the Age of Ignorance, the very last monotheistic religion of Islam highlighted the importance of abstaining from *delaying* various deeds such as prayer, repentance, and good doing. Prophet Muhammad was quoted as he highlighted the importance of paying the workers their salaries without any further delay. He advised "أعطوا الأجير أجره قبل أن يجف عرقه" [Pay the

laborer his wages before his sweat dries]. Later on, in a medieval classic – The Divine Comedy by Dante Alighieri – the first part of Canto 1 discussed Dante's "delaying tactics" while greeting some characters (Brockman, 2017). As a consequence, Virgil – a main character in the classic – reprimanded Dante for his delays (Brockman, 2017).

As civilizations were established, industries and economies developed alongside. The agrarian societies shifted to become technically advanced societies that required commitments. Consequently, this development compelled the establishment of schedules and deadlines (Knaus, 2000). As a result of this, procrastination became more frequent among citizens (Knaus, 2000) and peaked during the industrial revolution. This epidemic helped analogize procrastination to "modern malady" that inflicted modern societies with the rise of the industrial revolution (Steel, 2007). Likely, it was around that same era that the term procrastination had acquired its negative connotations despite its long existence (Ferrari, Johnson, & McCown, 1995, as cited in Steel, 2007, p. 66). However, procrastination did not end by the offset of the industrial revolution, on the contrary, this malady and its literature are still booming in our 21st century.

Procrastination in the Arab World

Some of the studies that addressed academic procrastination in the Arab World associated procrastination with self-motivation (الدافعية الذاتية; Al-Silami, 2015), life stresses (ضغوط الحياة; Abood, 2016), thinking patterns (أساليب التفكير) and academic ambition (الطموح الأكاديمي; Al-Anzi, 2016), self-regulated learning (التعلم المنظم ذاتيا; Al-Sirhan & Sawalha, 2017), and the Big Five Personality Factors (العوامل الخمس الكبرى للشخصية) along with other variables (Jab-Allah, 2016). Upon previewing the figures on the prevalence of procrastination among students in the Arab World, procrastination ranged mostly between levels of average and low. For instance, a study

on academic procrastination was conducted on a sample of 751 undergraduate students at Yarmouk University in Jordan (Abu Ghazal, 2012). The percentages obtained on high, low, and average levels of academic procrastination were 25.2 %, 17.2%, and 57.7% respectively (Abu Ghazal, 2012). In another study and on a sample of 561 undergraduate students at Al Bayt University in Jordan, the prevalence of academic procrastination among learners was reported to be average (Al-Sirhan & Sawalha, 2017). Moreover, in an experimental study conducted on a sample of 120 tenth graders in Jordan, only 33 students were identified as procrastinators (Abu-Zreik & Jaradat, 2013). To add on, in a study conducted on a sample of 374 secondary students in Egypt, 45.7% of these secondary students reported experiencing procrastination (Sahloul, 2014). The difference between Egypt and Jordan on the prevalence of procrastination might be attributed to cultural effect and the schooling system along with other factors. However, one cannot determine the prevalence of academic procrastination among LBP candidates in Lebanon for there are no existing figures as far as we know yet.

Conceptualizing Academic Procrastination

Theorists had differed on their conceptualization of the nature, aetiology, and consequently the definition of procrastination. A possible explanation for the lack of a theoretical basis for procrastination is the reliance on correlational designs, instead of other designs, to conceptualize procrastination. Among these theorists, psychologists provided the most extensive theoretical perspective on procrastination. These perspectives are those of the: (1) situational approach, (2) neurobiological approach, (3) clinical psychology, (4) differential psychology, (5) motivational and volitional psychology (Steel & Klingsieck, 2015). The purpose of this section is to help ground the theoretical approach of this study, on academic procrastination, in the existing perspectives.

Situational Approach

This perspective attempts to explain procrastination as a behavior evoked by environmental factors such as "task difficulty and attractiveness, plausibility of the assignment, autonomy, teachers' or supervisors' characteristics, and the proximity and saliency of temptations and distractions" (Steel & Klingsieck, 2015, p. 11). It somehow attributes procrastination to the environmental factors surrounding procrastinators rather than attributing it to their personal factors. Similarly, studies addressing procrastination as a domain specific variable might fall under this approach. For instance, Klingsieck (2013b) had conducted a study on procrastination in six life domains, namely academic and work, everyday routines and obligations, health, leisure, family and partnership, and social contacts. Results of the confirmatory factor analysis revealed that the domain specific model yielded a better fit than the domain general model. Likewise, procrastination was variably present across the different life domains; being most frequent in the academic and work domain and least frequent in leisure domain (Klingsieck, 2013b). Thus, studies from this perspective address procrastination as a domain specific variable and advise differentiating it across the different life domains.

Neurobiological Approach

Research in this realm is on the rise and is centered on the dualistic theory of mind. The prefrontal cortex is responsible for making and maintaining intentions (Steel & Klingsieck, 2015). It is the cues in the human brain that signals to individuals to initiate tasks, persist, and change behavior. Yet, when the mechanisms of the prefrontal cortex are exhausted, compromised (Steel & Klingsieck, 2015), or injured, people tend to lose initiative (Skoyles & Sagan, 2002, as cited in Steel, 2007, p. 83). This impairment in the prefrontal cortex's executive functioning causes individuals not to do their tasks even if capable. Yet, it was highlighted by

Steel (2007) that the only investigation on having the prefrontal cortex as the basis of procrastination was done by Stone (1999), who concluded with an insignificant effect. Later on, Steel and Klingsieck (2015) explained that this loss of initiative is due to the relocation of the decision making process from the prefrontal cortex to the limbic system. The limbic system, however, is weakened by short-term temptations and distractions. As a result, individuals delay the onset of a coursework and fall into the temptations of the present (Steel & Klingsieck, 2015).

Clinical Psychology

This perspective seeks to depict clinically relevant conditions to and interventions for the phenomenon of procrastination (Klingsieck, 2013a). It is also the perspective that highlights the negative consequences of procrastination on the various aspects of individuals' lives and depicts whether or not individuals' procrastinatory behaviors are clinically significant (Steel & Klingsieck, 2015). Studies in this area relate procrastination to an array of disorders including depression, test anxiety, cluster-c personality disorders (i.e. obsessive-compulsive personality disorder), and stress (Klingsieck, 2013a).The clinical significance of procrastination caused few psychologists to consider it as a psychological disorder on condition that it should have been present for more than 6 months, persisted for more than half a day, and accompanied by at least 5 psychological or physiological complaints (Klingsieck, 2013a).

Differential Psychology

Differential psychologists address procrastination as a personality trait (Klingsieck, 2013a; Steel & Klingsieck, 2015). Advocates of this view claim that procrastination is not a state, but rather a personality trait impacting the different life domains of an individual. Thus, an individual who procrastinates in the academic domain is more likely to procrastinate in the social

life domain, since procrastination – being part of his/her personality – will be exhibited in multiple life domains. Similarly, some researchers had associated procrastination with other personality traits by utilizing The Big Five personality taxonomy (Steel, 2007; Steel & Klingsieck, 2015; van Eerde, 2003), associating it with irrational beliefs (i.e. perfectionism; Steel & Klingsieck, 2015) as well as different aspects relating to oneself (i.e. self-esteem; Steel & Klingsieck, 2015), and time-related personality styles (i.e. time orientation and time preferences; Steel & Klingsieck, 2015). To add on, high procrastination was associated with low consciousness, high neuroticism, increased perfectionism, low self-esteem, and decreased optimism (Klingsieck, 2013a). On the other hand, the personality factors of extraversion, openness to experience, and agreeableness were insignificantly related to procrastination (Steel & Klingsieck, 2015). Likely, procrastination is often associated with self-handicapping as a strategy to protect one's self-esteem (Klingsieck, 2013a; Lay, Knish, & Zanatta, 1992). This strategy is employed to protect individuals' self-worth and reduce feelings of anxiety (Owens & Newbegin, 1997), for if the individuals have failed, they will not be accused of failure since they did not attempt to initiate the task in the first place.

Motivational and Volitional Psychology

Proponents of this view perceive procrastination as a failure in acting upon one's initial intentions (i.e. initial work plan) which results in an "intention – action gap" (Steel, 2007). Studies that related procrastination to motivational variables found that procrastination is less likely to occur in intrinsically motivated, self-determined, or flow-inducing activities (Klingsieck, 2013a). Similarly, procrastination is less likely to occur among individuals with an internal locus of control, increased self-efficacy (Steel, 2007), as well as those having a mastery approach goal orientation (Klingsieck, 2013a). On the other hand, studies that addressed

volitional variables found that procrastination is caused by low self-regulation, reduced self-control, decreased action-control, or volitional problems at large (Klingsieck, 2013a).

The Study's Perspective

While using this systemization of the perspectives on procrastination, one should consider the following: "First, there is a considerable degree of overlap between the perspectives. Consequently, not all approaches can be unambiguously assigned to one perspective" (Klingsieck, 2013a, p. 28). As a result, this study acknowledges all of the aforementioned perspectives for the views presented (the parts) all contribute to understanding procrastination (the whole) with numerous overlaps between the parts. Yet, the following assumptions helped ground the study's perspective on academic procrastination; it inclined to certain perspectives more than others.

To start with, even though this study did not aim in understanding the direct impact of the existing environmental factors on academic procrastination among LBP candidates, the context/situation/environment was still vital in this study. This study addressed academic procrastination in the context of Lebanon while recognizing the peculiarity of the LBP candidates in this context. This study as well addressed procrastination as a domain specific variable measured in the academic domain solely. Subsequently, this helped narrow the focus of this study from the different life domains down to one academic domain; procrastination displaying itself as a domain specific variable. This in return did not entail bounding procrastination to being a mere state variable; however, it helped focus on addressing procrastination in the academic domain and generalizing findings to it. Generalizations from the differential perspective might only be done if these LBP candidates have been studied in

different life domains besides the academic; which is of high importance yet irrelevant to the scope and purpose of this study.

Moreover, in spite of the promising findings from the neuropsychological perspective, addressing academic procrastination from that perspective is not possible for it is beyond the area of expertise of the co-investigator. The whole study was conducted and discussed from a psychoeducational approach rather than the neuropsychological one. Similarly, even if this study put forward relationships of clinical interests, it did not seek to understand academic procrastination from a mere clinical perspective.

Having stated this, notions from the motivational perspective align mostly with this study for the following. The motivational perspective attributes the delay of initiating a task to a lack of motivation. Likely, this study addressed academic procrastination as a self-regulatory failure during which motivation plays a key role throughout this process – as it will be highlighted in the following sections. Not only this, the first correlate of academic procrastination in this study, academic self-efficacy, is deeply rooted in motivational stances and was prominently correlated with procrastination from a motivational perspective; it was concluded that self-efficacy is one of the expectancy constructs that strongly predicts procrastination (Steel & Klingsieck, 2015).

Similarly, the second correlate of academic procrastination in this study, academic achievement, holds motivational underpinnings as well. In fact, grades as indicators of academic achievement are not a mere reflection of learners' intellectual capacities, but also of their motivation (Spinath, 2012). Motivation is one of the driving forces of academic achievement and students' grades function as incentives for them in the future (Spinath, 2012). Therefore, students' good grades motivate them to continue the good work while their poor grades motivate them to improve (Spinath, 2012). This motivational dimension shared by academic

procrastination and its correlates helped weave the theoretical framework of this study as well as define academic procrastination in the following section. In conclusion, the study's perspective on procrastination is mostly motivational and somehow situational; situated in the academic domain.

Typologies of Procrastination

Now that the study's perspective on academic procrastination was established – and prior to operationally defining academic procrastination – it was essential to revisit the existing typologies of procrastination in the literature. The typologies of procrastination are based on either life domains (i.e. academic or health), self-reported reasons (i.e. rebellion or arousal), or causes (i.e. self-efficacy or value driven; Steel & Klingsieck, 2015). On the other hand, researchers had categorized procrastination and procrastinators differently. To shed light on a few, Klassen et al., (2008) categorized procrastinators based on the degree to which procrastination had impacted their academic functioning; they categorized students into either neutral or negative procrastinators. Unlike neutral procrastinators, negative procrastinators self-reported being the most adversely impacted by procrastination. To add on, Chu and Choi (2005) categorized procrastination into passive and active types. Passive procrastination is the traditional type of procrastination whereby individuals indecisively delay a course of work and fail to complete it towards the deadline (Chu & Choi, 2005). The passive type of procrastination is the type frequently studied in the literature and addressed by most perspectives (i.e. clinical and motivational perspectives). Passive procrastinators possess low motivational beliefs, low learning strategy use, high anxiety, and high levels of procrastination (Ng, 2016). On the other hand, active procrastination is considered to be a "positive" type of procrastination during which procrastinators prefer to work under pressure and purposefully procrastinate (Chu & Choi, 2005;

Ng, 2016); utilizing procrastination as a "strategic self-serving delay" (Steel & Klingsieck, 2015). Active procrastinators have high motivational beliefs, high learning strategy use, high anxiety, and moderate high levels of procrastination (Ng, 2016). Some of the studies utilizing this categorization of procrastination include those done by Choi and Moran (2009), Chu and Choi (2005), Hensley (2014), and Martini (2013). Moreover, Ferrari categorized procrastination into functional and dysfunctional procrastination during which procrastination is only considered dysfunctional when the penalties for individuals' procrastination are imposed on them (as cited in Dembo & Eaton, 2000, p. 480).

To add on, other researchers have categorized procrastination into either a trait or a state variable. For instance, McCown, Johnson, and Petzel (1989) differentiated between three types of procrastination relating to personality traits of high psychoticism, neurotic extraversion, and depression. On the other hand, Knaus categorized procrastination into two broad categories, namely social procrastination and personal procrastination. Social procrastination is the most visible form of procrastination whereby individuals pointlessly delay fulfilling their social responsibilities (i.e. lateness for filing taxes, appointments, and turning in reports). Personal procrastination, however, is when individuals pointlessly delay what directly impacts their lives (i.e. delaying overcoming phobias, quitting the consumption of dangerous substances, and delaying medical checkups). Knaus (2000) noted that these two categories often overlap, for delaying medical checkups could exacerbate health problems which might extend to impact one's family and contribute to social procrastination. Inversely, social procrastination reveals the procrastinator's delay in understanding and dealing with his/her personal procrastinatory behavior. Likely, there exist other typologies such as behavioral procrastination and decisional procrastination, as well as arousal procrastination (caused by one's false belief of working best

under pressure) and avoidance procrastination (caused by imagined and actual fears; Klingsieck, 2013a).

The Study's Typology of Academic Procrastination

From the above presented typologies, the negative/passive procrastination aligns best with the study's framework for the following. Prior to the industrial revolution, procrastination was viewed as a neutral and "wise course of (in) action" (Steel, 2007, p. 66). However, after the industrial revolution, procrastination neither connotes neutrality nor a wise course of in (action; Steel, 2007). Therefore, since this study conceptualized academic procrastination post the industrial revolution, with all of the negative connotations entailed by this delay post that era, it considers academic procrastination to be of a negative/passive type. Additionally, procrastination is often described as a troubling phenomenon since people frequently characterized it as "bad, harmful, and foolish" (Briody, 1980, as cited in Steel, 2007, p. 65). Likewise, the behavior of delaying an intended course of action while expecting its negative consequences is considered as an "inherently risky" or "negative" behavior (Steel, 2007, p. 81). In the light of this aura of negativity surrounding procrastination, over 95% of procrastinators wish to reduce it (O'Brien, 2002, as cited in Steel, 2007, p. 65). From this stance, it is not possible to have procrastination as a functional behavior while having most of those experiencing it wanting to get rid of it. Likewise, the studied active/positive procrastinators were similar to non-procrastinators since they had similar patterns of "purposive use of time, control of time, self-efficacy beliefs, coping styles, and outcomes including academic performance" (Chu & Choi, 2005, p. 245). This could jeopardize the existence of this category of "positive procrastinators" and they can simply be learners utilizing a time management strategy that mimics procrastination; especially that some other studies failed to converge to similar findings upon categorizing procrastination into

positive/active (Cao, 2012). Therefore, this study presented academic procrastination in its negative/passive typology with all the negative connotations engulfing this term.

Categorizing Academic Procrastination/Procrastinators

Bearing in mind this passive/negative typology of academic procrastination, this study further categorized academic procrastination and subsequently academic procrastinators into levels of high and low after the following elimination process. To start off, most learners weekly delayed and studied less frequently before midterms (Rothblum et al., 1986). Having this noted along with what have been established earlier, academic procrastination seems to be existent among most students throughout the semester. As a result, this too helped eliminate the chances of categorizing learners into procrastinators and non-procrastinators. The term non-procrastinators seems to encompass a sense of absolutism – as in having the non-procrastinators never engaging in or experiencing procrastination. This might sound misleading and further validated the elimination of this option for categorization.

In a similar manner, even if most students engage in academic procrastination, they seem to differ at the levels of their engagement. However, the term procrastination does not discriminate between these levels, namely high and low. For this reasons as well as the study's interest in understanding the differences between the extremities of academic procrastination – high and low – at the levels of its correlates, academic procrastination and academic procrastinators were categorized into two levels of high and low.

Defining Academic Procrastination

Now that the term academic procrastination has been given its negative connotation, it is time that it is operationally defined. To begin with, the word procrastination has a Latin origin

whereby *pro* means “forward, forth, or in favor of” and *crastinus* means “of tomorrow” (Klein, 1971, as cited in Steel, 2007, p. 66). Therefore, the literal meaning of procrastination is to forward a task for tomorrow. Procrastination as a mass noun is defined as “the action of delaying or postponing something” (Oxford Dictionaries, n.d.). On the other hand, procrastination in its transitive verb form, procrastinate, is defined as “to put off intentionally and habitually” (Merriam Webster, n.d.). Likely, procrastinate as an intransitive verb is defined as “to put off intentionally the doing of something that should be done” (Merriam Webster, n.d.). As such, the literature is ample with varying definitions of procrastination; however, most of these definitions encompass terms such as “postponing, delaying, or putting off a task or a decision” (Steel, 2007, p. 66). This term does not explicitly state the nature of the consequences (i.e. positive or negative) accompanying this delay, hence, the researchers – who perceive procrastination as a maladaptive behavior – define procrastination in a negative manner. Researchers who perceive procrastination as an adaptive behavior, however, gave a positive connotation for that definition.

In this study, the definition of academic procrastination was figuratively woven using five threads. To begin with, Steel (2007) noted that procrastination has been frequently defined as a delay of initiating or completing an intended course of work. From this stance, the first thread entailed having procrastination as a delay of an intended course of work. In this study, however, the delay was irrespective of the stage it took place at – the stage of initiating or completing a task. Moreover, since this study addressed procrastination as a domain specific variable in an academic context, the intended course of work was purely academic. Thus, the second thread was that of the domain specificity of procrastination; referring to procrastination as academic procrastination when convenient. To add on, Steel (2007) reported that procrastination has been defined as an irrational delay of a behavior. This brought about the third

thread of the aspect of irrationality escorting this delay. This irrationality causes individuals to engage in actions that do not feed into their purpose(s) – whether materialistic such as money or psychological such as happiness – instead of engaging in their intended course of action (Steel, 2007). This irrational delay, resulting in a failure to act upon one's initial intention, is quintessentially a self-regulatory failure (Steel, 2007). This led us to the fourth thread of having procrastination as a self-regulatory failure. This self-regulatory failure intertwines with the fifth thread of expecting the negative consequences of the delay. To highlight on this, studies by Day, Mensink, and O'Sullivan (2000), Haycock (1993), Micek (1982), and Onwuegbuzie (2000) concluded that almost 50% of college students constantly procrastinate while being aware of its drastic drawbacks (as cited in Steel, 2007, p. 65); thus, realizing the negative consequence of this delay. Having said this, this study defined academic procrastination as a self-regulatory failure during which learners irrationally delay an intended course of academic work while being aware of the delay and its negative consequences.

Measuring (Academic) Procrastination

Most of the studies on procrastination rely on self-reported measures (Steel, 2007). Out of these self-reported measures, there are the general procrastination scales along with fewer domain specific ones. These general procrastination scales include the General Procrastination Scale (GPS) by Lay (1986), the Adult Inventory of Procrastination (AIP) by McCown and Johnson (1989), Tuckman Procrastination Scale (TPS) by Tuckman (1991), and the Decisional Procrastination Scale (DPS) by Mann (1982). The first three listed scales measure behavioral procrastination (one's behavior in delaying a task) while the last scale measures decisional procrastination (making a decision to delay a task; Steel & Klingsieck, 2015). In addition, other procrastination scales are Aitken Procrastination Inventory by Aitken (1982), Procrastination

Log-Behavior by Lopez and Wambach (1982), Procrastination Self-Statement Inventory by Grecco (1984), Test Procrastination Questionnaire developed by Kalechstein, Hocevar, Zimmer, and Kalechstein (1989; as cited in Steel, 2007, p. 73), and Procrastination Assessment Scale-Students (PASS) by Solomon and Rothblum (1984). On the other hand, the only scale that measures the positive type of procrastination is the Active Procrastination Scale developed by Chu and Moran (2009; Gendron, 2011). Most of these scales have been instrumented to measure procrastination in the academic setting and not academic procrastination in particular. Likely, some of the few scales on academic procrastination are either outdated or have unattended limitations. For instance, one of the major limitations of the PASS is that it measures procrastination tendencies in limited areas of academic performance (McCloskey & Scielzo, 2015).

In this study, however, the Academic Procrastination Scale (APS) was utilized to measure procrastination in its unique outlet, namely the academic. The APS was recently developed to account for the limitations of the previously constructed scales (i.e. GPS, PASS, The Active Procrastination Scale, and TPS) in order to measure academic procrastination exclusively. McCloskey (2011) reexamined the literature on procrastination and identified six unique facets/characteristics of academic procrastination to be embedded in the scale. These six characteristics were: psychological beliefs about abilities, distractions, social factors, time management, personal initiative, and laziness (McCloskey, 2011).Thus, yielding a scale that accounts for the limitations of the previously established scales while encompassing the different facets of academic procrastination.

Furthermore, the APS was also instrumented for it relates academic procrastination to the motivational construct of personal initiative that is synonymous with internal motivation

(McCloskey & Scielzo, 2015). It could be possible that the students, who possess personal initiative and an intrinsic drive for completing their academic work, are less likely to procrastinate. This motivational underpinning encompassed by the APS aligns much with the study's perspective on academic procrastination – being mostly motivational. This motivational underpinning as well is common ground for academic procrastination and its correlates in this study – as it will be highlighted onwards.

Conceptualizing Academic Self-Efficacy

The social cognitive theory, known as the social learning theory prior to 1986, explains behavior from the perspective of the reciprocal determinism. The reciprocal determinism, represented by the Triadic Reciprocal Model (TRM), theorizes that the triadic determinants or factors, namely individual's cognitive and internal events (P), environment (E), and behavior (B) interact in an unremitting triadic manner (Bandura, 1978). These interactions happen to impact the behavior at large as well as offer an explanation of it. In the realm of self-regulated learning, this process is governed by a reciprocal causation between the personal, environmental, and behavioral processes (Zimmerman, 1989).

Of these personal/cognitive factors is self-efficacy which is a sub-processes governing the functions of self-regulation (Matthews, Zeidner, & Roberts, 2006). The term self-efficacy was coined by a social cognitive theorist, Albert Bandura, meaning one's beliefs and expectations about their own competence and effectiveness. Zimmerman referred to Bandura's work, done in 1977 and 1997, that defined self-efficacy as "personal judgments of one's capabilities to organize and execute courses of action to attain designated goals" (Zimmerman, 2000, p. 83). Students with high self-efficacy for learning are self-regulated learners who set their goals, use effective learning strategies, monitor their understanding, and evaluate their

progress towards their goal (Schunk & DiBenedetto, 2015). In the same way, self-efficacious learners utilize self-regulated learning strategies, have high self-efficacy perceptions of their own performance on a task, and are committed to their academic goals (Zimmerman, 1989). Furthermore, these learners are able to create effective learning environments by eliminating or minimizing distractions (Schunk & DiBenedetto, 2015).

Adding on, a significant body of research, done over the past 20 years, validated having self-efficacy a predictor of students' motivation and highlighted its convergent validity in predicting various forms of motivation (i.e. efforts and persistence; Zimmerman, 2000). Having said this and in reference to the study's perspective on having academic procrastination a quintessential self-regulatory failure during which motivation is a key player, it is possible that academic self-efficacy and academic procrastination share the common dimension of motivation as well as a pertinent connection to self-regulation.

Moreover, self-efficacy does not seem to have a trait-like stability across time and settings; it differs on the basis of the domain of functioning (Zimmerman, 2000). It also differs conceptually and psychometrically from trait self-belief constructs for it is sensitive to variations in experiences, task, and situational contexts (Zimmerman, 2000). Similarly in this study, procrastination is studied as a domain specific variable – the academic domain. Thus, both self-efficacy and procrastination share the facet of being domain specific and for that we have referred to each as academic self-efficacy and academic procrastination when necessitated. Having said this, academic self-efficacy was operationally defined as a learners' personal judgments of their own capabilities to organize and execute courses of action to attain designated academic goals.

Research on (Academic) Procrastination and (Academic) Self-Efficacy

In the realm of research on procrastination, self-efficacy was measured predominantly in the academic and work domains (Steel, 2007). It was as well established in the meta-analyses of Steel (2007) and van Eerde (2003) that procrastination and self-efficacy are negatively related. Conversely and besides what was mentioned earlier, upon categorizing procrastination into passive and active, Chu and Choi (2005) concluded that self-efficacious learners engaged in active procrastination; thus, having active procrastination and self-efficacy positively correlated. However, even though Chu and Choi's categorization is different from this study's categorization and the positive correlation between procrastination and self-efficacy was found when procrastination was defined in the active sense, researchers were still referring to the construct of procrastination in the academic domain that we are addressing; thus, this positive correlation obtained was noteworthy. Besides, there exist other findings that negate having academic procrastination and academic self-efficacy significantly related. For instance and as abovementioned, Sirin (2011) and Aydogan (2008; as cited in Sirin, 2011, p. 452) found that academic procrastination and self-efficacy are not significantly associated in an academic context.

Across the plenteous research studies done on procrastination and self-efficacy, it was recommended that future studies address procrastination beyond a single context and with different samples (i.e. other than university students; Klingsieck, 2013a). In retrospect, the literature neither included a study done on academic procrastination and academic self-efficacy among school/university students in the context of Lebanon. The research conducted in Lebanon correlated self-efficacy and academic self-efficacy with variables other than procrastination.

Therefore, this study attended to an unstudied context (i.e. Lebanon) and population (i.e. LBP candidates) as well as an understudied population (i.e. high school students).

To add on, most of the existing studies were built on the assumption of having self-efficacy a predictor of procrastination and their findings converged to support this assumption in multiple contexts (i.e. Azar, 2013, in Iran; Ocal, 2016, in Turkey). This as well was validated earlier in Steel's (2007) meta-analysis, during which self-efficacy was established to be a strong predictor of procrastination. Yet in other studies, (academic) self-efficacy was not a significant predictor in the procrastination model (i.e. Kandemir, 2014; Kim et al., 2016; Klassen et al., 2010; Sirin, 2011). This study, however, tested whether or not academic self-efficacy was a significant predictor of academic procrastination among the LBP candidates in the context of Lebanon.

Measuring (Academic) Self-Efficacy

In order to assess self-efficacy judgements, numerous scales have been utilized to measure it either as a trait or a state variable. However, since this study addressed self-efficacy as a domain specific variable, only some of the domain specific scales were inspected. To name a few, the Academic Self-Efficacy Scale was constructed to measure academic self-efficacy based on the Self-Efficacy for Academic Milestones Scale by Lent, Brown, and Larkin (1986) and the Self-Efficacy for Broad Academic Milestones Scale developed by Lent, Brown, and Gore (1997). This scale is composed of items addressing specific university courses as well as the milestones students would face during their course of study (Elias & Loomis, 2000). Another scale that partially measures self-efficacy beliefs in the academic setting is the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich and De Groot (1990). This

scale contains a nine-item subscale for measuring self-efficacy, yet, it relied on measuring one's self-efficacy by comparing oneself to others (Pintrich & De Groot, 1990).

To add on, another utilized academic self-efficacy scale is the College Academic Self-Efficacy Scale (CASES) developed by Owen and Froman (1988). CASES is a self-reported scale on academic self-efficacy that measures college learner's confidence in performing academic tasks (Owen & Froman, 1988). This scale is relatively lengthy (33 items) and somehow outdated (31 years ago). These detours lead to the selection of the Academic Self-Efficacy Scale (ASES) developed by Chemers, Hu, and Garcia (2001). Academic self-efficacy was defined by Chemers et al., (2001, p. 56) as "students' confidence in mastering academic subjects" – it aligns with this study's conceptualization of academic self-efficacy and its operational definition. Furthermore, the ASES was developed in the light of Bandura's guidelines; aligning the scale with the social cognitive stance of this study. The scale measures learners' perceived ability to perform well academically and it reflects on a variety of academic tasks (i.e. scheduling of tasks, note taking, test taking, researching, and writing papers). This scale was often employed to measure academic self-efficacy among college/university students (i.e. Chemers et al., 2001; Khan, 2013). This study, however, did not utilize it with a developmentally different age group (i.e. elementary students), on the contrary, it utilized it with a similar age group. For instance, the age range for first year college/university is often 17-19 while that of LBP candidates is 16-18; hence, utilizing this scale with LBP candidates seems possible. Adding on, academic self-efficacy relates to learners who "… make greater use of effective cognitive strategies in learning, manage their time and learning environments more effectively, and are better at monitoring and regulating their own effort" (Chemers et al., 2001, p. 56). Likely, this study operationally defined academic self-efficacy as learners' personal judgments of their own capabilities to organize and execute

courses of action to attain designated academic goals. Therefore, due to the slight difference between the age group of college/university students and that of the LBP candidates as well as the theoretical alignment between the underpinnings of ASES and this study's conceptualization of academic self-efficacy (i.e. the social cognitive theoretical framework, domain specificity of self-efficacy), the ASES was utilized in this study to measure academic self-efficacy.

Conceptualizing Academic Achievement

Self-regulated learners are committed to their academic goals (Zimmerman, 1989). Of the various academic goals, academic achievement is probably the most common – if not the optimum. Academic achievement was operationally defined in this study as a learning outcome that indicates the extent to which a learner has accomplished specific learning goals that were the focus of activities at school (Steinmayr, MeiBner, Weidinger, & Wirthwein, 2017). Analogously, academic achievement is a term used to refer to performance outcomes in an academic setting; indicating the level of intellectual education of a person or a population (Spinath, 2012). Therefore, this study did not take academic achievement at face value, a mere grade, but rather a broader construct that was quantified into a grade for measurement purposes. Academic achievement is not only connected to learners, but to their societies and nations as well. At the micro level, that of the individual, academic achievement is the most crucial predictor of vocational careers and consequently the individuals' socioeconomic prosperity (Spinath, 2012). At the macro level, academic achievement is a prerequisite for societal prosperity whereby the more educated a society is, the higher chances it has for socioeconomic development. Consequently, academic achievement is no more exclusive for the education stakeholders, yet for sociologists, economists, and politicians as well. In some countries, politicians base their decisions on data from academic achievement large-scale studies (Spinath, 2012).

Academic achievement shares some commonalities with academic procrastination. To start off, most research posit that high academic achievers are self-regulators who have realistic beliefs about their study skills and are able to employ these skills in their exam preparation (Schunk & Ertmer, 2012). If one was to link this to academic procrastination, being a quintessential self-regulatory failure, it could be posited that academic procrastination hurdles learners' attempts at regulating their skills and efforts to prepare for assessments; hindering academic achievement of learners from a shared self-regulatory stance. Furthermore, academic achievement has a motivational facet by which motivation is considered to be of the prominent individual characteristics contributing to academic achievement. Likewise, procrastination was conceptualized in this study mostly from a motivational perspective; thus, sharing the motivational facet with academic achievement. To add on, both academic achievement and academic procrastination share the aspect of domain specificity in this study for both were measured in the academic context.

Research on (Academic) Procrastination and Academic Achievement

In the realm of research on procrastination, academic achievement is one of the most frequently utilized outcome measure associated with procrastination (Gendron, 2011). Studies across the literature found that procrastination is related to high achievement, low achievement, or neither (i.e. yielding an insignificant relationship regardless of its direction). According to some literature, academic procrastination is not always associated with low academic achievement. Some high academic achievers utilize procrastination to juggle the various tasks they have; procrastination did not impede their academic achievement. Likely in van Eerde's (2003) review, it was posited that individuals' scores on the Scholastic Aptitude Test (SAT) were positively related to procrastination, however, with a small effect size of r =.10. Besides, in one

of their experiments, Tice and Baumeister (1997) concluded that self-reported procrastinators obtained low final and term paper grades. However, in their second experiment, the researchers failed to converge towards similar findings (as cited in Schraw, Wadkins, & Olafson, 2007, p. 14). Therefore, procrastinators are not necessarily low achievers. Alike, Lay, Edwards, Parker, and Endler's (1989) findings suggest that procrastinators experienced a great sense of challenge that peaked immediately prior to exams (as cited in Schraw et al., 2007, p. 14). This sense of challenge could be a reason to motivate learners to focus more on their studies and be able to better achieve. It was also posited by Sommer (1990) and Vacha and McBride (1993) that procrastinating students tend to cram and that these crammers outperformed non-crammers (as cited in Schraw et al., 2007, p. 14). This was explained by having crammers utilize dissimilar learning strategies to maximize their efforts in the limited time they have and, hence, better achieve. Using cramming to maximize the learning efficiency was further developed by Brinthaupt and Shin (2001); one of their findings was that crammers outperformed non-crammers (as cited in Schraw et al., 2007, p. 14). Their argument was that cramming increases flow by increasing the level of task challenge, which in return demands a higher level of performance from the student. All of these findings converged to a conclusion that procrastination improves efficiency, challenge, flow, and subsequently academic achievement of learners (Schraw et al., 2007); thus, increasing the chances of having academic procrastination and academic achievement positively related.

The counter argument, however, has been much more established in the literature. A significant body of research on the relationship between procrastination and academic achievement on undergraduate learners converges to a negative correlation. Upon reviewing various studies, Steel (2007) identified an average correlation of -.19 between academic

performance and procrastination. As of 1988, Beswick, Rothblum, and Mann found a strong negative correlation between academic procrastination and final academic grades, which lead to a conclusion that procrastination is detrimental to academic achievement (as cited in Owens & Newbegin, 1997, p. 870). In Kim & Seo's (2015) meta-analytic review of literature, procrastination and performance were negatively correlated. To highlight on a few studies in this realm and on a sample of college students, there was found a statistically significant negative total effect of procrastination on end-of-term grade point average (GPA; Kennedy & Tuckman, 2013). Identically and on a non-American sample, a study conducted on 91 Chinese university students concluded that academic procrastination was significantly and negatively correlated with academic achievement; yet, the participants reported moderate procrastination tendencies (Liu, 2010). At times, however, there was not found any significant relationship between academic procrastination and academic achievement. In a study conducted by Cao (2012), on a sample of 125 students, there was not found a significant difference between procrastinators and non-procrastinators at the level of their course grades. Similarly, in Solomon and Rothblum's (1984) study, conducted on a sample of 342 university students, both high procrastinators and non-procrastinators received high grades. In a more recent study as well, there was not found any relationship between university students' procrastinatory behaviors and their academic achievement in Malaysia (Bakar & Khan, 2016).

Besides the above stated disagreement, there lies another disagreement on whether or not academic procrastination predicts academic achievement. Steel (2002) noted that academic procrastination is a consistent predictor of performance. Likewise, it was concluded that procrastination is a predictor of academic achievement in multiple contexts such as Iran (Azar, 2013), Korea (You, 2015), and the US (Steel, Brothen, & Wambach, 2001). At different times,

however, procrastination did not predict academic achievement. For instance, in a study done by Moon and Illingworth (2005), self-reported procrastination did not predict test performance of university students. Likewise, in a study done on a Nigerian population of secondary students, academic procrastination did not contribute to the academic achievement of these participants (Aremu el al., 2011). As per the study's fourth research question, academic procrastination was tested for predicting academic achievement.

Measuring Academic Achievement

In the literature studying (academic) procrastination and relating it to academic achievement, different indicators of academic achievement were utilized. One of the most frequently used measures of academic achievement is grade-point average (GPA; i.e. Chemers et al., 2001; Gendron, 2011; Rothblum et al., 1986). In Kim & Seo's (2015) meta-analysis, an array of indicators of academic achievement was reported such as course grade, assignment grade, midterm scores, final examination scores, homework, and quizzes. Likely, besides grades and GPA, van Eerde (2003) identified other performance measures utilized in the literature on procrastination such as the ability to meet deadlines, time spent on a task, and ability to complete a task such as assignments. Other indicators were narrative evaluations written by instructors which were then converted to quantitative indicators (Chemers et al., 2001). To add on, scores on standardized tests were utilized as indicators of academic achievement such as composite American College Test (ACT) scores (i.e. Hensley, 2014). These indicators of achievement were either self-reported or externally assessed (Kim & Seo, 2015).

On a broader scale, students' academic achievement is measured either by their grades, educational degrees, or standardized achievement tests (Spinath, 2012). From these three indicators, grades are often used to quantify academic achievement in schools and higher

education institutions (Spinath, 2012). Besides providing students with feedback and motivating them, grades as well help better inform third parties on students' performance (Spinath, 2012). Alongside, this study was conducted by a third party that is keen to draw conclusions from students' academic achievement; which further justifies the utilization of grades in this study. Therefore, grades were collected in the form of students' first school semester averages. These grades were cumulative in nature for they measure students' academic achievement across the different subjects over a period of 3 - 4 months. Therefore, to report their academic achievement, students self-reported their first school semester averages on the demographic form.

Conclusion

In the light of this dichotomy of whether academic procrastination and each of academic self-efficacy and academic achievement are negatively, positively, or insignificantly related, a study was needed to investigate these relationships in a new context – that of Lebanon. It also helped explore and describe an unstudied population on its standing at the levels of academic procrastination, academic self-efficacy, and academic achievement; it informed stakeholders and put forward valuable recommendations. This study as well helped depict whether or not academic self-efficacy is a predictor of academic procrastination and whether the latter is/is not a predictor of academic achievement for LBP candidates.

CHAPTER III

Methodology

Introduction

The main purpose of this study was to investigate the various relationships between academic procrastination and each of academic self-efficacy and academic achievement of the LBP candidates. To attain that purpose, the following research questions were addressed:

1) Are there any significant differences between low and high academic procrastinators on academic self-efficacy?
2) Are there any significant differences between low and high academic procrastinators on academic achievement?
3) Is academic self-efficacy a predictor of academic procrastination among candidates of the Lebanese Baccalaureate Program?
4) Is academic procrastination a predictor of academic achievement among candidates of the Lebanese Baccalaureate Program?

In this chapter, the research design of the study is firstly discussed. Information about the participants, instruments, recruitment procedure, research ethics, data collection procedure, and data analysis procedure are hereby presented.

Research Design

The research design of this study was quantitative non-experimental design. The participants filled a questionnaire composed of a demographic form, Academic Procrastination Scale, and Academic Self-Efficacy Scale. The demographic form requested general information

about the participants (age, gender, nationality, LBP emphasis, and their first school semester average). The Academic Procrastination Scale requested information regarding the habits and routines of students while the Academic Self-Efficacy Scale requested information on students' personal beliefs about their abilities as learners.

Participants

The population of this study was the 2018-2019 LBP candidates belonging to the age group of 16-18. According to CRDP (2017-2018), 51.7% and 45.1% of secondary students were enrolled in private and public schools respectively. From this group of secondary students, 22,033 LBP candidates were enrolled in private schools while 18,140 LBP candidates were enrolled in public schools across Lebanon (CRDP, 2018). These numbers in return show that most LBP candidates were enrolled in private schools, during which the latter are free in designing their curricula and managing their systems. However, these LBP candidates still have to pass the national official examinations set by the MEHE and CRDP as part of their school graduation requirements. These twelfth graders, the LBP candidates, can enroll in one of the four LBP tracks – the Economics and Sociology (ES), Literature and Humanities (LH), Life Sciences (LS), or General Sciences (GS) – based on their personal preferences, grades, track in grade 11 (scientific or humanities), and the track's availability at the school they are enrolled at.

A representative sample was selected from the population in order to study the aforementioned relationships. The sampling unit was private schools and the sample was drawn from schools that have met the selection criteria of: (1) being a private school, (2) located in Beirut area, (3) offering LBP where English is the first foreign language of

instruction. The selection criteria were the culmination of much forethought and were rationalized as follows. Firstly, the schools were chosen to be private schools due to the abovementioned fact of having the LBP candidates enrolled in private schools outnumber the LBP candidates enrolled in public schools; thus, a higher chance of accessing a greater number of participants. A possible counter argument could be obtaining the ratio of public to private schools in Beirut and representing these schools accordingly in this study. This, however, brings us to the issues of accessibility and time. Private schools are more accessible than public schools in terms of requiring less procedures and their response on whether or not they approve of participation is timely. Thus, in order to conduct a study in a private school, it was enough to meet and discuss with the school principal on whether or not they want to grant access for the investigators to conduct the study on their school premises. To conduct a study in a public school, however, it is required to obtain MEHE's approval prior to that of the public school principal. Thus, it is a relatively lengthy, yet, valid process which unfortunately exceeds the duration allotted for this study.

Secondly, only the schools that are located in Beirut area were contacted because it was not feasible for the co-investigator to access private schools across the eight governorates of Lebanon and equally represent them in this study. Instead, the co-investigator chose to select the schools from the capital city of Lebanon as a preliminary step and in future research possibly stretch beyond this city. With respect to the geographic boundaries, the city of Beirut was divided into two electoral districts during the Lebanese parliamentary elections that happened on Sunday, May 6, 2018. The first district, known as Beirut the First, included the areas of Ashrafieh, Al-Rmeil, Al-Medawar, and Al-Saifi. The second district, known as Beirut the Second, included the areas of Ras Beirut, Dar El-

Mrayseh, Minet El-Hosn, Zuqaq Al-Blat, Al-Mazraa, Al-Msaytbeh, Port of Beirut, and Al-Bashoura. This distinction between the districts was made for the sole purpose of marking the geographic boundaries of this study – the city of Beirut.

Thirdly, the schools were chosen to be offering LBP in English because English is the language of which these scales were originally constructed in, the second language of the co-investigator working on this thesis, and the language of discourse in this study. Besides this, English speaking schools comprise more than 67% of the schools in Beirut area (CRDP, 2018). In order to account for LBP candidates, whose first foreign language of instruction is French, the scales have to be accurately translated into French and their content validity, construct validity, as well as other psychometric properties reestablished. So, even though it is of paramount importance to have these leaners participate in this study, the abovementioned procedures are beyond the areas of expertise of the co-investigator working on this study, and recruiting specialists (i.e. translators and tests and measurements educational psychologists) to carry out these tasks is not feasible in terms of time, scope, and finances of this study. Thus for the scope of this study, the above established criteria are sound.

The sampling method used was random sampling. A list of schools that have met the selection criteria was created. From that list, 14 schools were randomly selected using SPSS and then contacted. For confidentiality purposes, however, the names of the schools were undisclosed in this research. After the school principals granted access to the co-investigator, the participants were contacted. The participants met these three selection criteria: (1) enrollment in the LBP for the academic year of 2018-2019, (2) belonging to the age group of 16-18, (3) obtained their first school semester averages for the academic year of 2018-2019. The selection criteria are rationalized as follows. The most frequent

age group for the LBP candidates is 17-18 (CRDP, 2018); however, the 16 years old were included for the data were collected around the fourth month of school during which most of the 17 years old were still 16. As for the academic year, since the study was conducted during the academic year of 2018 and 2019, it was only meaningful to collect the data from students enrolled at the LBP around the same period. Finally, the students had to have their first school semester averages for it was a variable we tested for in this study. For these reasons, these particular selection criteria were formulated.

Instruments

As previously mentioned the variables that this study sought to understand were academic procrastination, academic self-efficacy, and academic achievement. Academic procrastination was operationally defined as a self-regulatory failure during which learners irrationally delay an intended course of academic work while being aware of the delay and its negative consequences. Academic self-efficacy was operationally defined as a learners' personal judgments of their own capabilities to organize and execute courses of action to attain designated academic goals. Academic achievement, however, was operationally defined as a learning outcome that indicates the extent to which a learner has accomplished specific learning goals that were the focus of activities at school.

In order to measure each of these variables, the following tools were employed. To measure academic procrastination, the Academic Procrastination Scale (APS; Appendix I) was utilized. This scale was developed by McCloskey (2011) and is a 25-item Likert-type scale that requires students to rate their agreement with the statements ranging from 1 (*disagree*) to 5 (*agree*). The scores on the APS range between 25 and 125 (McCloskey, 2011).

Examples of items on the scale include: “I usually allocate time to review and proofread my work”, “I put off projects until the last minute”, and “I have found myself waiting until the day before to start a big project”. The APS has greater reliability and internal consistency than those of four other procrastination scales (TPS, GPS, PASS, and Active Procrastination Scale; McCloskey, 2011). The scale has a commendable convergent validity and was significantly correlated with these four scales. It is also significantly related to GPA and added incremental validity beyond the four scales in predicting semester grades. The factor analysis of the APS revealed one factor; indicating that the APS measures the construct of academic procrastination solely. The Analysis of Variance has shown that APS scores did not vary with gender, ethnicity, and academic major/academic year (McCloskey, 2011). Items 1, 8, 12, 14, and 25 on the APS need reverse coding and the scale does not include any subscales. The scoring is done by summing up the scores on each item and a total score for every participant on the APS is obtained. The reliability of the APS was .94 (McCloskey & Scielzo, 2015). In this sample, the Cronbach alpha was .80.

In order to measure academic self-efficacy, the Academic Self-Efficacy Scale (ASES; Appendix II) developed by Chemers, Hu, and Garcia (2001) was utilized. The scale is an eight-item measure that requires participants to rate on a 7-point Likert scale their agreement with statements that reveal their ability to perform well academically (Chemers et al., 2001). All of the 8 items on the ASES address abilities needed not only at college/university level but also at the high school level. Thus for convenience, the term “university” on the ASES was replaced with “school” on items 7 and 8. The scores on the ASES range between 8 and 56. Examples of items on this scale are: “I know how to schedule my time to accomplish my tasks”, “I know how to take notes”, and “I am a very

good student". The scoring was done by getting the sum of scores on all items on the scale for every participant. The scale has a coefficient alpha of .81 (Chemers et al., 2001). In this sample, however, the Cronbach alpha was .82.

In order to measure academic achievement, however, students self-reported their first school semester averages on the demographic form (Appendix III). All of the three tools were reviewed by three educational psychologists and one educational psychology professor; they inspected every item on each tool and confirmed their suitability for use on a sample of LBP candidates.

The data obtained from these tools were self-reported for a purpose. To start with, it was not doable in terms of time and human resources to observe and record the overt academic procrastinatory behaviors of the 328 participants over a period of one academic semester. Similarly, it was not possible to request from these LBP candidates to track their own procrastinatory behaviors over a period of one academic semester, for it would pressure them and the study might end up with lots of missing data and perhaps a little sample size – it might not be sufficient for statistical analysis. Adding on, one cannot infer a student's academic self-efficacy, his/her personal judgements of their abilities, from observing behaviors. Thus, in order to learn about the students' own personal judgments of their own capabilities to organize and execute courses of action to attain designated academic goals, one must learn about them from the students themselves through their self-reported data.

Above that, accessing students' private academic records, their first school semester averages, to measure their academic achievement is not plausible at many levels. Firstly, the 17 year old participants, their parents, and the 18 year old participants might resist disclosing the first school semester average for a third party through the school's admission office. Secondly, if

these parties agreed, the school might resist disclosing students' grades for reasons they have communicated with the co-investigator. Some of these reasons were: the lengthy process of searching and recording the grades for every student, protection of student's privacy, an existing school policy prohibiting the disclosure of grades to a third party, and the lengthy process of obtaining approvals to disclose this information. Thirdly, some schools after showing their willingness to participate, pended their final approval once they knew that academic achievement was a variable to be measured in this study. However, once the co-investigator emphasized that the data will be self-reported, students' privacy will be protected, confidentiality of the data and the anonymity of the filled questionnaires will all be ensured, they undoubtedly granted their approval. In short, this is not the first study to draw conclusions from self-reported data, in fact, the reliance on self-reported data has been frequent in the literature on procrastination and contributed to building the existing body of knowledge on procrastination and its correlates. As a consequence, all of the data utilized in this study were self-reported.

Recruitment Procedure

Most of the school principals/directors were approached by the co-investigator using direct method; the co-investigator personally visited them after booking an appointment through a phone call or an e-mail. The co-investigator met with the school principal/director, informed them about the study, and handed them in the school director permission letter in both Arabic and English Languages. The school principal/director were given the chance to ask any question they may have. They were also given/e-mailed copies of every document that will be distributed on their school premises (the questionnaire, parental consent form, child assent form, and participant consent form) and

were given the chance to inspect them and share any of their concerns. On a scheduled date, the co-investigator re-visited the school principal/director to collect the signed form.

Upon coordinating with the school principal/director, heads of secondary department and supervisors, the co-investigator booked an appointment to visit the LBP candidates in schools that approved of participation. The co-investigator informed the LBP candidates about the study, handed them in the convenient assent and consent forms, and explained the content of each form. The floor was given for the participants to discuss any question or concern they may have. On an agreed date, the co-investigator re-visited the schools to collect the signed assent and consent forms. Students who were 18 years old had to return their consent form signed to school in order to be considered as participants in the study. Those who failed to return their consent form signed to school were considered non-participants. On the other hand, students belonging to the age group of 16-17 had to return both of their parental permission form and child assent form signed to school to be considered as participants in the study. Those who failed to return both forms signed were excluded from participation. On an assigned date, the co-investigator visited the classrooms of the participants for data collection.

Research Ethics

The distributed school principal/director permission letters, participant consent form, parental consent form, and child assent forms all highlighted similar themes in both Arabic and English languages. The forms included the above presented details on the purpose, recruitment procedure, duration of the study, as well as a section on risks and benefits. It was guaranteed for the school principals/directors, participants, and parents that the participation in

this study does not involve any physical risk or emotional risk beyond the risks encountered by the LBP candidates in their daily lives. They all have the right to withdraw their assent/consent at any time for any reason, and this decision does not involve any penalty or loss of benefits to which they are entitled. In addition, refusal to participate in the study did not involve any penalties of any kind or affected the schools', parents', or the LBP candidates' relationship with AUB. However, none of the participants received any direct benefit from participating in this research.

To secure the confidentiality of the LBP candidates' responses, their names and other identifying information were never requested on any section of the questionnaire. All data were kept in sealed envelopes and on a password protected computer that was kept secure by the researchers; data access was limited to the researchers working directly on this project. It was also highlighted that the LBP candidates' research data might be monitored and audited by the AUB Institutional Review Board (IRB) while maintaining confidentiality. After the conclusion of the study, the principal investigator will retain all original study data in a secure location for at least three years to meet institutional archiving requirements. After this period, data will be responsibly destroyed through shredding. The LBP candidates' privacy was promised to be maintained in all published and written data resulting from this study. Their names or other identifying information were never requested, and consequently no names were available to be listed in our reports or published papers.

Towards the end of these forms, the contact information of the principal investigator and the co-investigator was provided (address at AUB, e-mails, and phone numbers). To add on, the contact information of the IRB at AUB (address, e-mail, phone numbers, fax, PO Box) was provided if any wished to discuss their study-related concerns with those who are not part of the

research team. The participants' rights were often highlighted; it was communicated that participation is voluntary and they are free to leave the study at any time without penalty. At the end, there was a section for signing the form on behalf of the co-investigator and each person receiving the convenient form.

Moreover, an e-mail was sent to the researchers who have constructed the Academic Procrastination Scale and the Academic Self-Efficacy Scale to obtain their permission to utilize their scales in this study. Their responses to the e-mail were prompt, positive, and motivating. Similarly, IRB had previewed this study's proposal as well as its tools and have granted approval for the researchers to conduct it.

Data Collection Procedure

The co-investigator distributed for the participants the questionnaire and explained for them each section on it while highlighting the issue of anonymity and their right to withdraw from the study at any time for any reason. Then, she asked the participants to take 9 minutes to fill the questionnaire; the duration was recommended by the personnel who had reviewed the tools for this study. The co-investigator kept track of time using a timer and answered any question the participants have had. Afterwards, the co-investigator collected the completed questionnaires and wholeheartedly thanked the participants for being in the study.

Data Analysis Procedure

Prior to data analysis, participants' averages underwent some adjustments. To start with, different schools place students' averages over different totals (i.e. 100 versus 20); however, students' final averages on the LBP official examination are converted over a

total average of 20. Therefore, every participant's average was changed into an average over 20. Likely, scores on items 1, 8, 12, 14, and 25 were reversed on the APS as it was instructed. Afterwards, a total score for every participant on each of the APS and the ASES was computed. The descriptives and frequencies were reported for each of the APS, ASES, and first school semester average (see Table 1).

In the light of what has been established earlier, this study categorized academic procrastination into a negative type being experienced by almost every student yet at different levels. As a result, the students' scores on the APS, ASES, and first school semester averages were converted from continuous measures to categorical measures of: high and low. The cutoff score for low and high groups on each scale was the mean. Scores that were less than or equal to the mean belonged to the low category, while those exceeding the mean by 0.01 were considered in the high category.

To answer the first and second research questions, Chi-Square Test was conducted to determine if the differences between the low and high academic procrastinators at the levels of their academic self-efficacy and academic achievement were significant – using the categorical measures created earlier based on the participants' total scores on the APS, ASES, and first school semester averages.

To answer the third and fourth research questions, Simple Linear Regression was used to identify the predictor of each of academic procrastination (i.e. academic self-efficacy) and academic achievement (i.e. academic procrastination) using the continuous measures of the LBP candidates; their total score on the APS, ASES, and first school semester average. This test as well helped in examining the relative contribution of academic self-efficacy to academic procrastination and the relative contribution of

academic procrastination to academic achievement in the context of Lebanon. Additionally, this helped determine the direction of the existing relationships between academic procrastination and its correlates.

CHAPTER IV

Results

Introduction

After carrying out the necessary statistical tests abovementioned, this chapter portrays the obtained results. The first two sections include the preliminary analysis and the sample description. The successive four sections present the results and tables pertaining every research question.

Preliminary Analysis

Prior to analysis, the data were checked for accuracy of entry and missing values. Missing values were found on the APS, ASES, and demographic form. With regard to the APS, 20 final scores were missing; the scores ranged from 33 to 125. However, none of the participants had omitted answering the whole APS; the missing scores were due to one/few items that were not filled by some of the participants. On the ASES, 2 final scores were missing; the scores ranged from 14 to 54. These two participants did not fill 1 item out of the 8 items on the APS. Regarding the first school semester average reported on the demographic form, 1 score was missing and the scores ranged from 8.33 to 20.

To check for the pattern of missing values, Little's MCAR test was done. The null hypothesis for Little's MCAR test is that the data are missing completely at random (MCAR) and the *p* value is significant at .05. For the APS, the significance value $p = .84 > .05$, meaning that the data are MCAR and we fail to reject the null hypothesis. For the ASES, $p = .83 > .05$, therefore, we fail to reject the null hypothesis as well and the data are MCAR. Consequently, the

pattern of the missing values is independent of the data values on both APS and ASES. With regard to the participant with a missing score on the first school semester average, it is only meaningful not to fill this missing score because it is one datum measuring one variable that can only be known if reported by the participant; hence, it was not replaced on the dataset.

After the data were found to be MCAR, the missing values on the APS and ASES were replaced using Expectation Maximization (EM). This method was chosen for it assumes a distribution for the partially missing data, and it makes inferences regarding the missing data based on the possibility of that distribution. Consequently, no missing data on these two scales were left and the total number of cases for both scales became the whole sample. The descriptives for APS and ASES did not change and the scores on each scale still ranged from 33 to 125 and from 14 to 54 respectively.

Univariate outlier were checked using z-scores and all values exceeding the absolute value of +/-3.29 were considered outliers. No outliers were found on any of the APS, ASES, and the item requesting for the first school semester average on the demographic form. Moreover, normality of the data for all continuous variables was checked through the standardized skew statistics (z skew). The academic achievement and academic procrastination variables were normally distributed. The variable of academic self-efficacy, however, was skewed as the standardized z statistic was z= - 3.77; it is greater than the absolute value of 3.29. However, since transformations are beyond the scope of this study, no transformations were done. Additionally, the descriptives and frequencies for the APS, ASES, and first school semester average were all tabulated (see Table 1).

Table 1
Descriptives and Frequencies for the Academic Procrastination Scale, Academic Self-Efficacy Scale, and First School Semester Average

Measure	Number of items	*N*	Mode	Median	*M*	*SD*	Range	Minimum	Maximum
APS	25	328	66	77	76.70	18.88	92	33	125
ASES	8	328	36	39	39.25	7.80	40	14	54
First School Semester Average	1	327	13	14.02	14.27	2.17	11.67	8.33	20

Sample Description

Initially, 546 consent and assent forms were distributed for the LBP candidates across the 14 participating schools. Out of these potential participants, 328 (60.07%) LBP candidates returned the convenient form(s) signed to school (see Table 2). The 18 year old LBP candidates (13.7%) returned their consent forms signed, while the 16-17 year old LBP candidates (86.3%) returned their parental consent and child assent forms signed. Participants in this study consisted of 133 (40.5 %) males and 195 (59.5%) females. These participants were enrolled in 14 private schools in Beirut area. The age of the participants ranged between 16 and 18 (M = 17.05, SD = 0.46). These participants were mostly Lebanese (91.1%), Palestinian (4%), Syrian (2.8%), and the remaining participants had other nationalities (i.e. Iraqi, Saudi Arabian, Egyptian, Turkish, and Tunisian). Approximately, 51.2% of the LBP candidates had their emphasis on Life Science, 32.5% on Economics and Sociology, 16% on General Sciences, and 0.3% on Literature and Humanities. This final sample obtained is representative of these 14 participating schools.

Table 2
Distribution of LBP candidates based on Schools

School	Number of LBP candidates	Number of participating LBP candidates	Response rate (in %)
1	21	21	100
2	53	5	9.43
3	68	60	88.23
4	22	22	100
5	83	44	53.01
6	40	33	82.5
7	3	3	100
8	46	4	8.69
9	48	23	47.91
10	8	7	87.5
11	21	21	100
12	34	30	88.23
13	48	6	12.5
14	51	49	96.07
Total	546	328	60.07

Note. In school number 13, the consent forms were distributed for the 18 year old students solely, the six participants, since the school did not want to bombard the parents of the 16-17 years old with the proposed version of the parental consent form.

Research Question 1

The first research question of this study was "Are there any significant differences between low and high academic procrastinators on academic self-efficacy?". The results showed that the mean and standard deviation for the APS were (M = 76.70, SD = 18.88) and for ASES were (M = 39.25, SD = 7.80). The midpoint of the APS is (25*5)/2 = 62.5; the mid-50th percentile. While the midpoint of the ASES is (8*7)/2 = 28, that is its mid-50th percentile. The mean on the APS is at the 61 percentile which is higher than the actual midpoint of the

scale; therefore, these LBP candidates have high levels of academic procrastination. Similarly, the mean obtained on the ASES is at the 70th percentile which is also greater than the actual midpoint of the scale; hence, these LBP candidates have high academic self-efficacy as well.

Chi-Square Test was conducted and the results indicated that there was a significant association between academic procrastination and academic self-efficacy of the LBP candidates (χ^2 = 68.62, *df* = 1, $p < .001$; see Table 3). Those who had high academic procrastination (37.5 %) had the lowest levels of academic self-efficacy, while those who had the lowest levels of academic procrastination (35.4 %) had the highest levels of academic self-efficacy.

Table 3
Results of Chi-Square Test and Descriptive Statistics for Academic Procrastination and Academic Self-Efficacy

Academic Procrastination	Academic Self-Efficacy	
	Low	High
Low	42 (12.8%)	116 (35.4%)
High	123 (37.5%)	47 (14.3%)

Note. χ^2 = 68.62. *df* = 1. *p* = .001. Percent of total reported.

Research Question 2

The second research question in this study was "Are there any significant differences between low and high academic procrastinators on academic achievement?". The descriptives obtained for the first school semester average were (*M* = 14.27, *SD* = 2.17). The midpoint of the first school semester average is 20/2 = 10; the mid-50th percentile. The mean obtained on the first school semester average is at the 71 percentile – which is greater than the actual midpoint obtained. Hence, these LBP candidates have relatively high first school semester averages.

Chi-Square Test was done and the following results were obtained. Significant association was found between academic procrastination and academic achievement (χ^2 = 9.04, *df* = 1, *p* =.003; see Table 4). Therefore, those who had the highest levels of academic procrastination (31.8 %) had the lowest levels of academic achievement. Whereas those who had the lowest levels of academic procrastination (26.6%) had the highest levels of academic achievement.

Table 4
Results of Chi-Square Test and Descriptive Statistics for Academic Procrastination and Academic Achievement

Academic Procrastination	Academic Achievement	
	Low	High
Low	71 (21.7%)	87 (26.6%)
High	104 (31.8%)	65 (19.9%)

Note. χ^2 = 9.04. *df* = 1. *p* = .003. Percent of total reported.

Research Question 3

The third research question in this study was "Is academic self-efficacy a predictor of academic procrastination among candidates of the Lebanese Baccalaureate Program?". Regression analysis was employed to predict the level of academic procrastination in LBP candidates from the academic self-efficacy variable. The results indicated that 35.2% of the variance in academic procrastination could be predicted by academic self-efficacy. The model was statistically significant, *F* (1, 327) = 177. 14, *p* < 0.001 (see Table 5). In fact, academic self-efficacy was a significant predictor in the academic procrastination model. The β weight = -.59, *p* < 0.001. Results as well indicated a significant and negative association between academic procrastination and academic self-efficacy during which each increase in 1 score at the academic

self-efficacy level corresponds to 1.43 decrease in the academic procrastination level of LBP candidates.

Research Question 4

The fourth research question in this study was "Is academic procrastination a predictor of academic achievement among candidates of the Lebanese Baccalaureate Program?". Regression analysis was run to predict the level of academic achievement in LBP candidates from the academic procrastination variable. Findings indicated that 6.6% of the variance in academic achievement could be predicted by academic procrastination. The model was statistically significant, F (1, 326) = 22.90, $p < 0.001$ (see Table 5). Therefore, academic procrastination was a significant predictor in the academic achievement model. The β weight = -.25, $p < 0.001$. Hence, results revealed a significant and negative association between academic procrastination and academic achievement, because every increase in 1 score at the academic procrastination level corresponds to 0.03 decrease in the academic achievement of LBP candidates.

Table 5
Simple Linear Regression for Predicting Academic Procrastination from Academic Self-Efficacy and Academic Achievement from Academic Procrastination

Predictor	β	*SE*	R^2	*F*	*df*	*p*
Academic Self-Efficacy	-.59	15.22	.35	177.14	1,327	.001
Academic Procrastination	-.25	2.10	.06	22.90	1,326	.001

CHAPTER V

Discussion

Introduction

As it has been frequently highlighted, the purpose of this study was to investigate the relationship between academic procrastination and each of academic self-efficacy and academic achievement to determine whether or not high and low academic procrastinators differ significantly at the levels of their academic self-efficacy and academic achievement. It also sought to investigate whether or not academic self-efficacy is a predictor of academic procrastination for LBP candidates, and to determine whether or not academic procrastination is a predictor of academic achievement for LBP candidates. To achieve this purpose, 328 LBP candidates completed a questionnaire on academic procrastination, academic self-efficacy, and academic achievement. Based on the collected and analyzed data, the research questions will be hereby discussed. Limitations, conclusions, and recommendations for future research and practice are also presented in this chapter.

The Conceptualization of Academic Procrastination

The scores obtained from LBP candidates on the APS reflected academic procrastination in its negative/passive typology experienced by LBP candidates at its different levels of categorization – high and low. Moreover, the APS encompasses the construct of internal motivation as part the personal initiative facet pertaining academic procrastination (McCloskey & Scielzo, 2015). Consequently, it could be probable to draw conclusions from scores on the APS in the light of the study's perspective on academic procrastination; being prominently motivational and situational. Possibly, those who scored higher on the APS are less likely to be

internally motivated to carry out their tasks exclusively in the academic setting. They could be externally motived, lacking the motivation, and/or nuancedly motivated. It is worthy of mentioning that addressing the construct of motivation while reflecting on academic procrastination and its correlates was done for it was a shared facet between the variables; this does not imply that motivation was a mediator in this study. Thus, these drawn conclusions provide a general idea about academic procrastination in the light of its conceptualization in this study.

The Relationships: Academic Procrastination and Academic Self-Efficacy

This study found that academic procrastination and academic self-efficacy are significantly and negatively related. Regarding the first research question of "Are there any significant differences between low and high academic procrastinators on academic self-efficacy?", high academic procrastinators differed significantly from low academic procrastinators at the level of their academic self-efficacy. Most of the high academic procrastinators reported low levels of academic self-efficacy (37.5%), whereas most of the low academic procrastinators reported high levels of academic self-efficacy (35.4%). With respect to the third research question of "Is academic self-efficacy a predictor of academic procrastination among candidates of the Lebanese Baccalaureate Program?", academic self-efficacy was a significant predictor of academic procrastination on a sample of LBP candidates. Prediction findings as well validated having a significant negative relationship between academic procrastination and academic self-efficacy among LBP candidates.

The Study's Perspective

The study's conceptualization of academic procrastination was further validated by the statistically significant relationships found between academic procrastination and academic self-

efficacy among LBP candidates. Within the group of the high academically procrastinating LBP candidates, 72.4% of them reported low academic self-efficacy. Their detailed self-efficacy judgements were unraveled through the ASES items; they are probably the ones who scored the least on the ASES. Conceivably, these LBP candidates perceive themselves as not knowing how to: schedule their time to accomplish their tasks, take notes, and study to perform well on tests. They think that they are incompetent in research and writing papers and their academic work to be uninteresting and unabsorbing. They ponder the ideas of being "bad" students, failing at doing well at school and academic tasks, and being incapable in succeeding at school at large. In brief, they seem to possess poor personal judgments of their own capabilities to organize and execute courses of action to attain designated academic goals. Such low levels of academic self-efficacy, which do not seem to profit learners, are significantly related to high academic procrastination; the maladaptive dysfunctional behavior conceptualized.

Adding on, academic self-efficacy was found to predict academic procrastination in an inverse manner. Therefore, the lower the learners' academic self-efficacy judgments are, the higher their engagement in academic procrastination will be. In the long run and if they retained such low levels of academic self-efficacy, their predicted levels of academic procrastination is high. Thus, the low scores on the ASES, the significant difference between low and high academic procrastinators at the levels of their academic self-efficacy, the predictive ability of the academic self-efficacy on academic procrastination, and the negative relationship between academic procrastination and academic self-efficacy all support the established conceptualization of academic procrastination. In other words, having one of the most desirable personal judgements, namely academic self-efficacy, to be significantly and negatively

associated with academic procrastination, does only validate having the latter an unquestionably maladaptive behavior.

As it was earlier conceptualized, academic procrastination and academic self-efficacy share the common facet of motivation. One promising inference could be that low academic procrastinators, who hold high academic self-efficacy judgements about themselves, are intrinsically motivated learners. They are intrinsically driven to maintain these personal judgments of their own capabilities when organizing and executing courses of action to attain designated academic goals. This motivation might be accompanied by lower chances of engaging in academic procrastination. Contrastingly, a possible unfavorable inference regarding that shared facet is that the high academic procrastinators, who possess low academic self-efficacy beliefs about themselves, might be discouraged and demotivated to prepare for their LBP studies and possibly the LBP official examination.

The Social Cognitive Perspective

From a social cognitive perspective, the construct of self-efficacy entails a set of cognitive beliefs that are influenced by four experiences: enactive attainment, vicarious experiences, verbal persuasion, and physiological states (Zimmerman, 2000). Enactive attainment experiences, referred to as performance accomplishments by Bandura (1977), are the most influential source of efficacy beliefs because they are based on the outcomes of one's personal experiences. On the other hand, vicarious experiences occur when the observer compares (him/her) self with a model and evaluates the outcomes reached by that model. This is also influenced by the observer's perception of the model, for if the model was seen to be more competent than the observer, the observer will think that s/he are less likely to reach that outcome (Zimmerman, 2000). Individuals who observe other people succeed in completing a

task could possibly experience an increase in their self-efficacy and become motivated to initiate the task; if others were able to do it then so do they. Contrastingly, observing others fail in completing a task might cause the observers to believe that they lack the competence to succeed and, thus, they might not attempt the task (Schunk & DiBenedetto, 2015).

Additionally, the verbal persuasion occurs when individuals are led to believe in their abilities verbally and mainly through suggestions by others. Such persuasion has limited impact on student's self-efficacy and depends much on the persuader's credibility (Zimmerman, 2000). These persuasions were highlighted earlier by Bandura (1997) as social persuasions that individuals receive from others. Positive persuasion can nourish the learner's beliefs in his/her capabilities in succeeding while negative persuasion can lower one's self-efficacy (Schunk & DiBenedetto, 2015). Lastly, students form their self-efficacy based on their perceived physiological reactions (i.e. fatigue, stress) and emotions revealing physical incapability (Zimmerman, 2000).

As a result of these experiences, LBP candidates with low academic self-efficacy beliefs might have had negative experiences probably at a major significant source or multiple sources. The LBP candidates with high academic-self efficacy beliefs, however, might have had more favorable experiences that positively contributed to shaping these desirable personal judgements. Consequently, these experiences were reflected in the relationship established between the LBP candidates' academic self-efficacy and their academic procrastination. For instance, within the group of LBP candidates with low academic self-efficacy (n = 165), 74.5% of them were high academic procrastinators. On the other hand, within the group of LBP candidates with high academic self-efficacy (n = 163), 71.2% of them were low academic procrastinators. By the

same token, this was also reflected in the ability of academic self-efficacy in predicting academic procrastination as well as the negative relationship established between both constructs.

The Literature Reviewed

Results corroborate prior research that (academic) procrastination and (academic) self-efficacy are significantly and negatively related. As it has been continuously highlighted in the meta-analyses of Steel (2007) and van Eerde (2003), procrastination and self-efficacy are negatively related. In a similar manner, high academic procrastinators reported lower levels of academic self-efficacy compared to low academic procrastinators. More precisely, within the group of LBP candidates with high academic procrastination (n = 170), 72.4% of them reported having low academic self-efficacy. Whereas within the group of LBP candidates with low academic procrastination (n = 158), 73.4 % of them had high levels of academic self-efficacy.

Simultaneously, the results obtained contradict the findings of studies converging to either a positive or an insignificant relationship between the two variables (i.e. Chu & Choi, 2005; Sirin, 2011; Aydogan, 2008). In this study, some LBP candidates had high academic procrastination and high academic self-efficacy; comprising 14.3% of the total sample and 27.6% of the high academic procrastinators. This percentage is relatively large and covers nearly a third of the high academic procrastinators' group. These learners seem to engage highly in academic procrastination while maintaining their high academic self-efficacy beliefs. They could be the learners described by Bandura (1997) and Pajares (1996; as cited in Sokolowska, 2009, p. 20) as those who engage in procrastination due to their overestimation of their abilities in completing a task promptly. They could also be highly engaging in academic procrastination to protect their high academic self-efficacy beliefs. They might have their own means to justify their procrastination (Knaus, 2000) and these means could be reinforced and maintained by the

short term benefits of procrastination (Knaus, 2000; Tice & Baumeister, 1997). Despite this all, the findings in this study at large did not converge to a significant positive relationship between academic procrastination and academic self-efficacy. The findings in this study validate having the majority of the high academic procrastinators to perceive themselves as incompetent learners whose academic success is not even warranted.

Furthermore, low academic procrastinators with high academic self-efficacy seem to be self-regulated learners who are able to monitor their learning goals, utilize potent learning strategies, as well as monitor their understanding. They are more likely to create effective learning environments by eliminating/minimizing distractors and finding effective study partners. Possessing such beliefs and being able to regulate their learning might as well explain why students with high academic self-efficacy were able to experience less the quintessential self-regulatory failure – academic procrastination.

It could be possible that the study's conceptualization of academic procrastination in its negative/passive type and the utilization of convenient scales helped align its findings with those of most literature. Most of the studies that have conceptualized and measured procrastination as a maladaptive behavior converged to conclusions on having procrastination and self-efficacy negatively related. On the other hand, some of the studies that have conceptualized and measured procrastination in a different typology (i.e. active typology) concluded a positive or insignificant relationship. Another possible explanation for obtaining results that aligned much with those of the literature is the selected age group. The age group in this study was similar to the frequently utilized one in studies done on procrastination; samples of most studies comprised of college/university students (Klingsieck, 2013a). Thus, it could be possible to have academic

procrastination prominently existent among this relatively large age group of secondary, college and university students.

Moving on to prediction results and agreeing with the findings of much of the literature, academic self-efficacy does predict academic procrastination. Self-efficacy is an expectancy construct that strongly predicts procrastination (Steel & Klingsieck, 2015). This construct was meta-analytically established to be a strong and consistent predictor of procrastination (Steel, 2007). A possible explanation for having academic self-efficacy a significant predictor of academic procrastination could be done from study's social cognitive perspective. The social cognitive theory postulates: the better the correspondence in the specificity of the predictor and criterion variable, the more predictive power the predictor variable has (Choi, 2005). In other words, the predictive ability of a self-concept relies much on the correspondence in specificity between the predictor (i.e. academic self-efficacy) and the criterion (i.e. academic procrastination) variables. The self-concept of academic self-efficacy and the predicted variable of academic procrastination were measured in the academic life domain solely; thus, at a similar degree of specificity.

In parallel, Bandura theorizes that decontextualized global self-efficacy is measured by vaguely worded items on the scale. As a result, this generality lends the items on the scale to portray similar constructs instead of the self-construct being measured (Choi, 2005). The ASES utilized to measure academic self-efficacy does neither measure global self-efficacy nor specific self-efficacy at the level of a particular course/subject; it measures academic self-efficacy at an intermediate level of specificity. The degree of specificity of self-efficacy might be debatable for there is not a clear cutoff on what is specific. To some, academic self-efficacy is specific if juxtaposed with general self-efficacy. Likewise, academic self-efficacy becomes general if

juxtaposed with mathematics self-efficacy. Delving deeper, mathematics self-efficacy is somehow general if juxtaposed with algebra self-efficacy. This specificity can be narrowed down to reach sub-topics and lessons in algebra such as self-efficacy in solving logarithmic functions. Therefore, it could be possible that academic self-efficacy was a significant predictor of academic procrastination in this study due to the correspondence in the specificity between the two constructs.

The Relationships: Academic Procrastination and Academic Achievement

Evidence collected from this study validate having academic procrastination and academic achievement significantly and negatively related. With respect to the second research question of "Are there any significant differences between low and high academic procrastinators on academic achievement?", high academic procrastinators differed significantly from low academic procrastinators at the level of their academic achievement. High academic procrastinators were mostly low academic achievers while the low academic procrastinators were mostly high academic achievers. Additionally, regarding the fourth research question of "Is academic procrastination a predictor of academic achievement among candidates of the Lebanese Baccalaureate Program?", results confirmed having academic procrastination a significant predictor of academic achievement among LBP candidates. Results in this regard indorsed having a significant negative relationship between academic procrastination and academic achievement.

The Study's Perspective

As it was renowned, academic procrastination and academic achievement held motivational underpinnings in this study. Academic procrastination was addressed prominently from a motivational perspective whereby most of the delay is attributed to a lack of or nuanced

motivation. Similarly, the LBP candidates' first school semester averages do not only reflect their intellectual capacities but also their motivation to learn. In the light of this shared dimension, it could be possible that the high academic procrastinators who are low academic achievers are less likely to be motivated leaners compared to the low academic procrastinators who are high achievers. Their lack/poor motivation to learn could be manifested in or is a manifestation of their high academic procrastinatory behaviors and their low academic achievement. These leaners are more likely to experience the self-regulatory failure of procrastination and are less likely to accomplish specific learning goals that were the focus of activities at school.

The Literature Reviewed

Results contribute to the discussion on having academic procrastination and academic achievement significantly and negatively related. Converging to such conclusion aligns the study's findings with those reported in the meta-analysis of Steel (2007) and Kim and Seo (2015). Despite the variations in demographics (i.e. age group, students' academic track, context of Lebanon…) and the choice of indicator – the less frequently utilized APS and the un-utilized first school semester average on the LBP in research on academic procrastination – this study still converged to findings confirmed in these meta-analyses. Henceforth, those highly engaging in academic procrastination are not likely to outperform those who engaged in it to a lesser extent. Additionally, the statistically significant negative relationship obtained further supports the conceptualization of academic procrastination for it was negatively related to one of the key learning outcomes – academic achievement.

Despite this, one cannot turn a blind eye on the LBP candidates who have scored high on both academic procrastination and academic achievement. They comprise 19.9% of the total

sample and 38.5% of the LBP candidates within the high academic procrastination group – a notable percentage. These learners seem to highly engage in academic procrastination while maintaining their status as high academic achievers. Such findings could possibly confirm Sokolowska's (2009) inferences on not always having procrastination associated with negative outcomes; in this study it is low academic achievement. They could also confirm the claim highlighted by Tice and Baumeister (1997) on putting the same effort on an academic task, regardless of procrastination, does not impact the quality of performance (i.e. academic achievement). However, this study failed to find a statistically significant positive relationship between academic procrastination and academic achievement.

Moreover, in their meta-analysis, Kim and Seo (2015) concluded that the relationship between procrastination and academic performance is impacted by numerous factors. One of these factors is the choice of procrastination measure – the scale. Probably, most of the studies that have converged to a negative relationship between procrastination and performance had utilized scales that measure procrastination as a maladaptive behavior. On the other hand, studies that converged to a positive relationship between procrastination and performance have possibly utilized scales that measure procrastination as an adaptive behavior. This study, however, had conceptualized academic procrastination as a maladaptive behavior and consequently utilized a scale measuring it in that typology; aligning our findings with those of studies sharing this conceptualization.

Another factor that impacted this relationship is the nature of the performance indicator utilized (Kim & Seo, 2015). For instance, GPA was negatively associated with procrastination, however, this relationship was weaker in magnitude when compared to the association between assignment grade and procrastination (Kim & Seo, 2015). It was argued that this is due to the

aspect of time in the punctuality of turning in the assignment entailed by the assignment itself. In this study, however, the performance indicator was chosen to be the first school semester average. The first school semester averages of students are similar but not synonymous with GPA in the sense that they are both comprehensive in nature. The first school semester average is compiled over the first 3-4 months of the academic year while the GPA is compiled over the whole academic year. Another factor that weakens the association between GPA and procrastination is having the GPA self-reported. It was found that procrastination was more negatively correlated with externally assessed performance than with self-reported performance, and that self-reported performance data reduced the observed correlation between procrastination and academic performance. This could be due to the fact that self-reported GPAs are often over-reported, yielding a weaker or sometimes insignificant correlation with procrastination (Kim & Seo, 2015).

In this study, however, we sought to investigate the statistically significant relationships between academic procrastination and academic achievement and not to compare the magnitudes of these relationships to others. Therefore, the categorization of procrastination into its negative type that necessitated the utilization of a scale measuring it as a maladaptive behavior and the choice of academic achievement measure (first school semester average) helped converge to a statistically negative relationship between the two variables regardless of the magnitude that we did not seek to compare.

Likewise, externally assessed procrastination was negatively correlated with externally assessed performance while self-reported procrastination was insignificantly correlated with self-reported performance (Kim & Seo, 2015). This lead to the conclusion of having self-reported data to be mostly overestimated, contaminated, and inaccurate (Kim & Seo, 2015). Antithetical

to the conclusion of this meta-analysis, this study converged to significant findings on the negative relationship between academic procrastination and academic achievement while having the data self-reported. This might be attributed to the co-investigator's emphasis on the importance of accuracy and academic honesty prior to and during data collection. She often highlighted her commitment in protecting the LBP candidates' privacy and maintaining confidentiality and anonymity of the shared data. However, this all does not help us in making a clear judgment on whether or not the self-reported data in this study were overestimated, contaminated, and/or inaccurate.

Over and above that, some procrastinators do not take credit for their success (Rothblum et al., 1986). They have instrumented procrastination to protect themselves from testing their true abilities. They do not hold themselves accountable for that delay (Knaus, 2000) and would either attribute their failure to internal factors (i.e. lack of effort) or external factors (i.e. situational), but not to procrastination (Rothblum et al., 1986). In order to attribute their delay to external factors, they engage much in shifting responsibility, pointing fingers, stonewalling, and spin controlling to justify their procrastination and deflect blame (Knaus, 2000). Other procrastinators, who externalize blame to external factors, identify themselves as victims of their circumstances (Knaus, 2000). Probably, these are the academic procrastinators who would blame life for their failures and justify their academic procrastination. And if they promise to complete the delayed task, it is probably when the "conditions" are more convenient.

All of this helps one gain some insight on what is experienced by the LBP candidates. Possibly, these high academic achievers within the high academic procrastination group (38.5% of 169 learners) are more likely to fail to credit themselves for their high academic achievement compared to the high academic achievers within the low academic procrastination group (55.1%

of 158 learners). On the other end, these low academic achievers within the high academic procrastination group (61.5% of 169 learners) might fail to take responsibility for their academic delay compared to the low academic achievers within the low academic procrastination group (44.9% of 158 learners) – they might attribute their failure to factors other than academic procrastination.

With respect to the predictive ability of academic procrastination on academic achievement, it might be explained by the correspondence in specificity between the predictor and the criteria (Steel, 2002). In this study, both procrastination and achievement were measured in the academic domain – both being intermediately specific. It was often highlighted that the correspondence in the degree of specificity between the predictor and predicted variables is crucial in predictive research on procrastination. Steel (2002) cautioned that even if trait procrastination predicts performance, the degree of the situational specificity has to be accounted for. Perchance, the situational considerations embedded in this study's conceptualization of academic procrastination and its correspondence with that of academic achievement could possibly justify our findings. As a result of this conceptualization, the APS was chosen to measure the predictor variable of procrastination in the academic setting. In this regard, the APS was proven to be predictive of students' academic achievement (McCloskey & Scielzo, 2015), regardless of their gender, ethnicity, and academic major (McCloskey, 2011). Therefore, the convergence to having academic procrastination a predictor of academic achievement among LBP candidates could be attributed not only to the correspondence in specificity between the constructs, yet, to the choice of academic procrastination scale as well. Furthermore, prediction results helped in deducing that these high academic procrastinators, unlike the low academic procrastinators, are less likely achieve in the future. Possibly, these high academic

procrastinators are limiting their chances of developing their intellectual capacities as well as motivation to learn.

Limitations of the Study

For nothing done is perfect and error free, this study has its limitations. First, the findings of this study were based on self-reported data by the LBP candidates. The self-reported data on the questionnaire might be inaccurately reported. The self-reported data, on academic achievement in particular, are of the prominent limitations of this study. Second, the tools utilized in this study were not piloted on a sample of LBP candidates.

Third, the participants in this study were LBP candidates belonging to schools that are private, located in Beirut area, and offering LBP where English is the first foreign language of instruction. Therefore, conclusions may or may not apply to the population(s) of LBP candidates belonging to schools that are: public, located in greater Beirut, located across the different Lebanese governorates, and/or offering the LBP where French is the first foreign language of instruction.

Fourth, the participation in this study was restricted to 16-18 year old learners who chose the LBP track. Thus, it is not possible to claim that the obtained results are applicable to all learners in Lebanon, across the different age groups, grade levels and/or tracks in twelfth grade (i.e. International Baccalaureate, French Baccalaureate).

Conclusion

The current study investigated the relationship between academic procrastination and each of academic self-efficacy and academic achievement to determine whether or not high and low academic procrastinators differ significantly at the levels of their academic self-efficacy and academic achievement. It as well investigated whether or not academic self-efficacy is a

predictor of academic procrastination and whether or not academic procrastination is a predictor of academic achievement for LBP candidates. The results presented in the study evidently display that academic procrastination and each of academic self-efficacy and academic achievement are significantly and negatively related. High and low academic procrastinators differed significantly at the levels of their academic self-efficacy and academic achievement. Above this, the results validated having academic self-efficacy a predictor of academic procrastination and having academic procrastination a predictor of academic achievement.

The results obtained extended the existing international literature and addressed the gap in the literature studying academic procrastination, academic self-efficacy, and academic achievement in Lebanon. The study contributed to understanding the unresolved disagreement on the relationship between academic procrastination and academic self-efficacy as well as the relationship between academic procrastination and academic achievement. Likewise, it presented findings that contribute to understanding two unresolved disagreements on having academic self-efficacy a predictor of academic procrastination as well as having academic procrastination a predictor of academic achievement. Consequently, this all was employed to set recommendations – as part of the study's significance – for future research and practice at the levels of the schools, universities, Ministry of Education and Higher Education, and the Center for Educational Research and Development.

Recommendations for Future Research

Just as every end is a new beginning, every concluding study is an invitation for future research. Research that accounts for the limitations of previous studies, builds on their findings, and enriches the literature. Firstly, future researchers are advised to employ self-reported instruments along with other methods to measure academic procrastination and academic

achievement. Such methods would address the shortcomings of the self-reported measures and help draw conclusions that either support or negate our findings. For instance, researchers could employ different instruments to measure academic procrastination (i.e. late/no submission of assignments/projects, study schedule revealing delay, cramming …) that are self-reported by the participants and externally reported by their instructors. The researchers as well could try and convince school principals, participants, and/or their guardians to approve of disclosing achievement indicators. This further adds to the reliability of the data and helps draw better conclusions. It is also recommended that future researchers pilot any tool for data collection on their sample prior to conducting their study.

Secondly, researchers are advised to enlarge their geographical boundaries. They might include LBP candidates from greater Beirut and/or reach out to the different governorates of Lebanon. This all shall make the study and its findings more representative of LBP candidates. Thirdly and likely, researchers are recommended to account for different demographic factors. This could be done by including LBP candidates who are enrolled in public schools and/or whose first foreign language of instruction is French. This helps draw well-informed conclusions for the sample became more representative of the LBP candidates' population. Other demographical alterations could be engaging participants from various ages, grade levels, twelfth grade tacks, and nationalities in order to study similar relationships in the same Lebanese context. Researchers could not only compare within these groups but across them as well.

Fourthly, it is highly recommended that future research investigates the prevalence of academic procrastination among learners and identify the factors contributing to it. Fifthly, researchers are urged to investigate the relationships between academic procrastination and each of academic self-efficacy and academic achievement with different methods. Quantitative

methods could be employed to investigate the statistical significance, strength, and direction of the relationships between academic procrastination and its correlates. Qualitative methods such as interviews and focus group discussion could be employed to understand the reasons, explanations, and claims held by high and low academic procrastinators regarding their beliefs and behaviors. This could probably be done to determine whether or not these academic procrastinators differ at the levels of their reasons/explanations/claims too. Utilizing and triangulating qualitative and quantitative data would help us better understand the existing relationships and their underpinnings.

Recommendations for Practice

This study sought to devote its findings to enhance practice as much as it sought to contribute to research and the literature. In order to serve practice, it put forward some recommendations pertaining academic procrastination and possible means to address that "elephant in the room". It is notable to mention that these recommendations are informative for stakeholders – eye-opening in nature – and are not intervention plans to modify the behaviors, cognitions, and achievements of academic procrastinators. These recommendations as well were set out of mere social responsibility for this study did neither experiment with any intervention nor intend to present a "cure" for academic procrastination.

At the school level, schools must be aware that their LBP candidates are not immune to that transnationally spreading and persisting malady of academic procrastination. Academic procrastination is negatively associated with academic self-efficacy and academic achievement. With such high levels of academic procrastination accompanied by low levels of academic self-efficacy and academic achievement, these learners' psychological, physiological, educational, and/or social wellbeing are/is at stake. As a result, school administrators are urged to adopt an

initiative that tackles academic procrastination and its correlates and reinforce it with policies. School counselors are urged to provide immediate individual counseling sessions as well as group counseling sessions for high academic procrastinators to help them take control of their procrastinatory behaviors; before the termination of their academic school year and the beginning of the official examination period. Likewise, special educators could assist these high academic procrastinators by devising individualized educational plans that consider their needs, build on their academic strengths, and help them overcome their weaknesses (i.e. highly engaging in academic procrastination, maintaining low academic self-efficacy judgements of themselves, poor academic achievement …).

The school counselors and special educators are also advised to organize awareness sessions – with future follow-ups – for all teachers and students in order to raise their awareness on the phenomenon of academic procrastination and its correlates. Some of these awareness sessions could highlight the dysfunctional procrastination processes that are associated with the following cognitive and behavioral mechanisms "(a) a desire to avoid the activity, (b) a decision to delay, (c) a promise to get to it later, (d) engagement in substitute diversionary activities, (e) excuse making to justify delays and to gain exoneration from blame" (Knaus, 2000, p. 157). Raising teachers' awareness on academic procrastination and its correlates might promote for the inclusion of such themes in their unit plans. On the other hand, raising students' awareness might help them better understand their academic procrastinatory habits, academic self-efficacy judgments, as well as their academic achievement. Raising awareness could the first step towards change, even if it requires time, persistence, and follow-up.

In such a school-wide initiative where teachers', school counselors', and special educators' actions are aligned and supported by a school-wide policy, parents committee and

parents/guardians have a role to play. The school personnel could consult with parents committee on issues pertaining academic procrastination (i.e. causes, intervention plans, prevention plans…) and its correlates among their students. In return, parents committee would disseminate their recommendations to parents of high academic procrastinators to help them support their children in managing their high procrastinatory behaviors. Not only this, the parents of low academic procrastinators are also invited to consider recommendations that would help in retaining their children's low academic procrastinatory behavior or even lessening it to a negligible level. In other words, this could serve as an intervention plan for the high academic procrastinators and a prevention plan for the low academic procrastinators; plans implemented and followed-up off campus too. Looking at the bigger picture, the alignment of the schools' willpower in addressing academic procrastination that was translated into a policy along with the efforts of the counseling and special education departments, the informed subject matter teachers, the supporting parents, and the determined learners altogether might contribute to tackling academic procrastination and its targeted correlates.

At the university level, these soon to be LBP graduates, are entering the university with their baggage of habits, behaviors, cognitions, and report cards. They will most probably exhibit similar behaviors and have similar cognitions about themselves in an academic context. Therefore, they might as well engage in academic procrastination as highly as before; especially if they have not been subjected to any intervention plan pertaining academic procrastination and some of its key correlates. Procrastination can exacerbate to lower students' achievements which might cause university students to overcome their academic deficiencies via unfair means (Hussain & Sultan, 2010). They could as well develop hostile and intimidating attitudes resulting in aggressive temperaments as well as engage in socially unacceptable attitudes and addiction

(i.e. drinking and smoking; Hussain & Sultan, 2010). Perhaps, addressing this maladaptive behavior as early as the start of the academic year might better serve these undergraduates.

The counseling center at the university could provide students with counseling sessions (i.e. individual and group). This center could as well collaborate with student life office and dean of students office to offer students workshops, seminars, as well as peer-support platforms that would help them address academic procrastination and its correlates. For instance, AUB has established a peer-support platform whereby students have the chance to discuss their concerns with understanding non-judgmental peers. Of the prominent topics that could be addressed during these sessions is academic procrastination and its correlates and the ways it is impacting students' lives. Consequently, those struggling with academic procrastination might gain insights and practical tips, from the less procrastinating peers, on how to lessen their engagement in academic procrastination. In addition, the counseling center at AUB had collaborated with other offices and organized, at the beginning of the academic year of 2018-2019, a workshop on time management and opened the floor for sharing useful tips. This all shall help students better understand academic procrastination and its correlates, express their feelings/thoughts, and learn means/skills to address each.

At the official level, CRDP is advised to liaise with MEHE on addressing academic procrastination and its correlates. These esteemed institutions could consider embedding topics/skills in the new national curricula that help students tackle academic procrastination and its key correlates. Having such topics entrenched in the new curricula stretches to reach the different assessments tools (i.e. national examinations) along with others. As a result, private schools – those offering the Lebanese program from kindergarten to twelfth grade with/without refinements – will be impacted by the new curricula especially at the level of the 9^{th} and 12^{th}

grades; whereby students have to study what is encompassed by the national curricula and sit for the national examination.

Adding on, even if this study did not measure academic procrastination and its correlates among LBP candidates from public schools, these schools could still benefit from the following. For the time being and for the future – when the new national curricula are implemented – CRDP could develop the content of the trainings, on the topics of academic procrastination and its correlates, for public school teachers. The trainings could take place at the Teacher Training Colleges (TTCs) in order to equip teachers with knowledge and skills to address academic procrastination and its correlates in their classrooms. After the trainings have been delivered, the Department of Orientation and Guidance (DOPS) at MEHE could follow-up with public schools to evaluate the effectiveness of the delivered trainings and the changes brought about by them.

References

Abood, M. (2016). The relationship between life stressors and academic procrastination among Ajloun National University students in Jordan. *Majalat Jamieat Alnajah lil'abhath (aleulum al'iinsania)/An-Najah University Journal for Research (Humanities), 30*(3), 641-662.

Abu Ghazal, M. (2012). Academic procrastination: Prevalence and causes from the point of view of undergraduate students. *Almajala Al'urduniya fi aleulum altarbawia/Jordan Journal of Educational Sciences, 8*(2), 131-149.

Abu-Zreik, M., & Jaradat, A.K. (2013). Effects of the modification of negative self-statements on reducing academic procrastination and improving academic self-efficacy. *Almajala Al'urduniya fi aleulum altarbawia/Jordan Journal of Educational Sciences, 9*(1), 15-27.

Al-Anzi, A. (2016). 'asalib altafkir wamustawaa altamuh al'akadimii wadawruhuma fi altanabu' bialtaswif al'akadimii ladaa tullab aljamiea [The roles of thinking styles and the level of academic ambition in predicting academic procrastination among university students]. *Almajala Alduwalia Altarbawia Almutakhasisa/International Interdisciplinary Journal of Education, 5*(8), 96-134.

Al-Silami, T. (2015). Levels of academic procrastination and self-motivation and the relationship between them among students of Makkah and Laith colleges in Saudi Arabia. *Majalat Aleulum Altarbawia Walnafsia /Journal of Education and Psychology, 16*(2), 639-664.

Al-Sirhan, M., & Sawalha, M. (2017). Academic procrastination and its relationship to self-regulated learning among Al- Baiyt University students. *Majalat Jamieat Alquds Almaftuha*

lil'abhath waldirasat altarbawia walnafsia/Journal of Al - Quds Open University for Educational and Psychological Research and Studies, 5(17), 161-172.

Aremu, A., Williams, T., & Adesina, F. (2011). Influence of academic procrastination and personality types on academic achievement and efficacy of in-school adolescents in Ibadan. *Ife Psychologia, 19*(1), 93-113. doi:10.4314/ifep.v19i1.64591

Aurelius, M. (2002). *Meditation* (G. Hays, Trans.). New York: The Modern Library. Retrieved from http://seinfeld.co/library/meditations.pdf

Azar, F. (2013). Self-efficacy, achievement motivation and academic procrastination as predictors of academic achievement in pre-college students. *Proceeding of the Global Summit on Education*, 11-12 March 2013, Kuala Lumpur.

Bakar, A.Z., & Khan, U.M. (2016). Relationships between self-efficacy and the academic procrastination behaviour among university students in Malaysia: A general perspective. *Journal of Education and Learning, 10*(3), 265-274. doi:10.11591/edulearn.v10i3.3990

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. doi:10.1037/0033-295X.84.2.191

Bandura, A. (1978). The self-system in reciprocal determinism. *American Psychologist, 33*(4), 344-358. doi:10.1037/0003-066X.33.4.344

Brockman, D. (2017). *A psychoanalytic exploration of Dante's the Divine Comedy*. London: Routledge Ltd. Retrieved from https://books.google.com.lb/books?redir_esc=y&id=3TUlDwAAQBAJ&q=Belacqua#v=onepage&q=procrastina&f=false

Cao, L. (2012). Examining 'active' procrastination from a self-regulated learning perspective. *Educational Psychology, 32*(4), 515-545. doi:10.1080/01443410.2012.663722

Center for Educational Research and Development (CRDP). (2018). *Annual schools report 2017–2018*. Retrieved from https://www.crdp.org/files/201807260129101.pdf

Center for Educational Research and Development (CRDP). (2019). Retrieved from https://www.crdp.org/policy?la=en

Chemers, M., Hu, L., & Garcia, B. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology, 93*(1), 55-64. doi:10.1037//0022-0663.93.1.55

Choi, J. N., & Moran, S. V. (2009). Why not procrastinate? Development and validation of a new active procrastination scale. *The Journal of Social Psychology, 149*(2), 195-212. doi:10.3200/SOCP.149.2.195-212

Choi, N. (2005), Self-efficacy and self-concept as predictors of college students' academic performance. *Psychology in the Schools, 42*(2), 197-205. doi:10.1002/pits.20048

Chu, A. H., & Choi, J. N. (2005). Rethinking procrastination: Positive effects of "active" procrastination behavior on attitudes and performance. *The Journal of Social Psychology, 145*(3), 245-264. doi:10.3200/SOCP.145.3.245-264

Dembo, M. H., & Eaton, M. J. (2000). Self-regulation of academic learning in middle-level schools. *The Elementary School Journal, 100*(5), 473-490. doi:10.1086/499651

Elias, S. M., & Loomis, R. J. (2000). Using an academic self-efficacy scale to address university major persistence. *Journal of College Student Development, 41*(4), 450-454.

Ferrari, J. R. (1991). Self-handicapping by procrastinators: Protecting self-esteem, social-esteem, or both? *Journal of Research in Personality, 25*(3), 245-261. doi:10.1016/0092-6566(91)90018-L

Flett, G. L., Stainton, M., Hewitt, P. L., Sherry, S. B., & Lay, C. (2012). Procrastination automatic thoughts as a personality construct: An analysis of the procrastinatory cognitions inventory. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 30*(4), 223-236. doi:10.1007/s10942-012-0150-z

Gendron, A. L. (2011). *Active procrastination, self-regulated learning and academic achievement in university undergraduates* (Master thesis). Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.864.1564&rep=rep1&type=pdf

Gropel, P., & Steel, P. (2008). A mega-trial investigation of goal setting, interest enhancement, and energy on procrastination. *Personality and Individual Differences, 45*(5), 406-411. doi:10.1016/j.paid.2008.05.015

Hensley, L. C. (2014). Reconsidering active procrastination: Relations to motivation and achievement in college anatomy. *Learning and Individual Differences, 36*, 157-164. doi:10.1016/j.lindif.2014.10.012

Hesiod (1914). *Hesiod: Works and Days* (H. Evelyn-White, Trans.). Retrieved from https://people.sc.fsu.edu/~dduke/lectures/hesiod1.pdf

Hussain, I., & Sultan, S. (2010). Analysis of procrastination among university students. *Procedia Social and Behavioral Sciences, 5*, 1897–1904. doi:10.1016/j.sbspro.2010.07.385

Jab-Allah, A. (2016). Academic procrastination is a contributory product of five big personality factors with the reactions of internet addiction and some demographic variables among college students. *Majalat Jamieat Alquds Almaftuha lil'abhath waldirasat altarbawia walnafsia/Journal of Al - Quds Open University for Educational and Psychological Research and Studies*, *6*(19). 75-100.

Janssen, J. (2015). *Academic Procrastination: Prevalence among high school and undergraduate students and relationship to academic achievement* (Doctoral dissertation). Retrieved from https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1115&context=epse_diss

Kandemir, M. (2014). Reasons of academic procrastination: Self-regulation, academic self-efficacy, life satisfaction and demographics variables. *Procedia - Social and Behavioral Sciences, 152,* 188-193. doi:10.1016/j.sbspro.2014.09.179

Kennedy, G. J., & Tuckman, B. W. (2013). An exploration into the influence of academic and social values, procrastination, and perceived school belongingness on academic performance. *Social Psychology of Education, 16*(3), 435-470. doi:10.1007/s11218-013-9220-z

Khan, M. (2013). Academic self-efficacy, coping, and academic performance in college. *International Journal of Undergraduate Research and Creative Activities*, *5*(1), 1-11. doi:10.7710/2168-0620.1006

Kiamarsi, A., & Abolghasemi, A. (2014). The relationship of procrastination and self-efficacy with psychological vulnerability in students. *Procedia - Social and Behavioral Sciences, 114,* 858-862. doi:10.1016/j.sbspro.2013.12.797

Kim, E., Alhaddab, T. A., Aquino, K. C., & Negi, R. (2016). Delaying academic tasks? Predictors of academic procrastination among Asian international students in American universities. *Journal of International Students, 6*(3), 817-824.

Kim, K. R., & Seo, E. H. (2015). The relationship between procrastination and academic performance: A meta-analysis. *Personality and Individual Differences, 82,* 26-33. doi:10.1016/j.paid.2015.02.038

Klassen, R. M., Ang, R. P., Chong, W. H., Krawchuk, L. L., Huan, V. S., Wong, I. Y. F., & Yeo, L. S. (2010). Academic procrastination in two settings: Motivation correlates, behavioral patterns, and negative impact of procrastination in Canada and Singapore. *Applied Psychology, 59*(3), 361-379. doi:10.1111/j.1464-0597.2009.00394.x

Klassen, R., Krawchuk, L., & Rajani, S. (2008). Academic procrastination of undergraduates: Low self-efficacy to self-regulate predicts higher levels of procrastination. *Contemporary Educational Psychology, 33*(4), 915-931. doi:10.1016/j.cedpsych.2007.07.001

Klingsieck, K. (2013a). Procrastination when good things don't come to those who wait. *European Psychologist, 18*(1), 24-34. doi:10.1027/1016-9040/a000138

Klingsieck, K. (2013b). Procrastination in different life-domains: Is procrastination domain specific? *Current Psychology, 32*(2), 175-185.doi:10.1007/s12144-013-9171-8

Knaus, W. J. (2000). Procrastination, blame, and change. *Journal of Social Behavior and Personality, 15*(5), 153-166.

Konnikova, M. (2014). Getting over procrastination. *The New Yorker*. Retrieved from https://www.newyorker.com/science/maria-konnikova/a-procrastination-gene

Lay, C. H., Knish, S., & Zanatta, R. (1992). Self-handicappers and procrastinators: A comparison of their practice behavior prior to an evaluation. *Journal of Research in Personality, 26*(3), 242-257. doi:10.1016/0092-6566(92)90042-3

Liu, K. (2010). *The relationship between academic procrastination and academic achievement in Chinese university students* (Master thesis). State University of New York, Buffalo.

Martini, F. (2013). *The influence of active procrastination and passive procrastination on university students' education and success in college* (Master thesis). Rowan University, New Jersey.

Matthews, G., Zeidner, M., & Roberts, R. (2006). Models of personality and affect for education: A review and synthesis. In Alexander, P.A., & Winne, P.H. (Eds.), *Handbook of Educational Psychology* (pp.163-186). New Jersey: Lawrence Erlbaum.

McCloskey, J. (2011). *Finally, My Thesis on Academic Procrastination* (Master thesis). University of Texas, Texas.

McCloskey, J., & Scielzo, S. (2015). The development and validation of the academic procrastination scale. Texas: University of Texas, Department of Psychology. doi:10.13140/RG.2.2.23164.64640

McCown, W., Johnson, J., & Petzel, T. (1989). Procrastination, a principal components analysis. *Personality and Individual Differences*, *10*, 197–202.

Merriam Webster (n.d.). Retrieved from https://www.merriam-webster.com/dictionary/procrastinate

Moon, S. M., & Illingworth, A. J. (2005). Exploring the dynamic nature of procrastination: A latent growth curve analysis of academic procrastination. *Personality and Individual Differences, 38*(2), 297-309. doi:10.1016/j.paid.2004.04.009

Ng, B. (2016). Towards lifelong learning: Identifying learner profiles on procrastination and self-regulation. *New Waves, 19*(1), 41-54.

Ocal, K. (2016). Predictors of academic procrastination and university life satisfaction among Turkish sport schools students. *Educational Research and Reviews, 11*(7), 482-490. doi:10.5897/ERR2016.2645

Owen, S.V., & Froman, R.D. (1988). Development of a college academic self-efficacy scale. East Lansing, MI: National Center for Research on Teacher Learning.

Owens, A. M., & Newbegin, I. (1997). Procrastination in high school achievement: A causal structural model. *Journal of Social Behavior and Personality, 12*(4), 869-887.

Oxford Dictionaries (n.d.). Retrieved from https://en.oxforddictionaries.com/definition/procrastination

Ozer, B. U., Demir, A., & Ferrari, J. R. (2009). Exploring academic procrastination among Turkish students: Possible gender differences in prevalence and reasons. *The Journal of Social Psychology, 149*(2), 241-257. doi:10.3200/SOCP.149.2.241-257

Patrzek, J., Sattler, S., van Veen, F., Grunschel, C., & Fries, S. (2015). Investigating the effect of academic procrastination on the frequency and variety of academic misconduct: A panel study. *Studies in Higher Education, 40*(6), 1014-1029. doi:10.1080/03075079.2013.854765

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*(1), 33-40. doi:10.1037/0022-0663.82.1.33

Rothblum, E. D., Solomon, L. J., & Murakami, J. (1986). Affective, cognitive, and behavioral differences between high and low procrastinators. *Journal of Counseling Psychology, 33*(4), 387-394.doi.org/10.1037/0022-0167.33.4.387

Sahloul, W. (2014). Altaswif alakadymy walmuetaqadat maa wara' almaerifia hawlah waealaqatuhuma bialtahsil aldirasii [Academic procrastination and its metacognitive beliefs and their relationship to academic achievement]. *Majalat kuliyat altarbia biAlzagazig/Journal of the Faculty of Education in Zagazig, 84*(1), 159-211.

Sandars, N. (1973). *The Epic of Gilgamesh*. UK: Penguin.

Schraw, G., Wadkins, T., & Olafson, L. (2007). Doing the things we do: A grounded theory of academic procrastination. *Journal of Educational Psychology, 99*(1), 12-25. doi:10.1037/0022-0663.99.1.12

Schunk, D., & DiBenedetto, M. (2015). *Self-Efficacy: Education Aspects*. Elsevier Ltd.

Schunk, D., & Ertmer, P. A. (2012). Self-Regulation and Academic Learning: Self-Efficacy Enhancing Interventions. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of Self-Regulation* (pp. 631-649). San Diego, CA: Academic Press.

Sirin, E. (2011). Academic procrastination among undergraduates attending school of physical education and sports: Role of general procrastination, academic motivation and academic self-efficacy. *Educational Research and Reviews, 6*(5), 447-455.

Sokolowska, J. (2009). *Behavioral, cognitive, affective, and motivational dimensions of academic procrastination among community college students: A Q methodology approach* (Master thesis). City University of New York, New York.

Solomon, L., & Rothblum, E. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of Counseling Psychology*, *31*(4), 503-509.

Spinath, B. (2012). *Academic Achievement.* Elsevier Ltd

Steel, P. (2002). *The measurement and nature of procrastination* (Doctoral dissertation). University of Minnesota, Minnesota.

Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, *133*, 65–94. doi:10.1037/0033-2909.133.1.65

Steel, P., & Klingsieck, K. (2015). Procrastination. In J. D. Wright (Ed.), *The International Encyclopedia of the Social and Behavioral Sciences* (2nd ed., Vol. 19; pp. 73-78). Oxford: Elsevier.

Steel, P., Brothen, T., & Wambach, C. (2001). Procrastination and personality, performance, and mood. *Personality and Individual Differences, 30*(1), 95-106. doi: 10.1016/S0191-8869(00)00013-1

Steinmayr, R., MeiBner, A., Weidinger, A., & Wirthwein, L.(2017). Academic Achievement. *Oxford Bibliographies*. Retrieved from http://www.oxfordbibliographies.com/view/document/obo-9780199756810/obo-9780199756810-0108.xml

Student Problems (2017a). In *Facebook* [Community]. Retrieved November 10, 2017 from https://www.facebook.com/StudentProblems/photos/a.319744201485653.1073741828.313227042137369/1630942267032500/?type=3&theater

Student Problems (2017b). In *Facebook* [Community]. Retrieved November 10, 2017 from https://www.facebook.com/StudentProblems/photos/a.319744201485653.1073741828.313227042137369/1605911049535622/?type=3&theater

Tice, D. M., & Baumeister, R. F. (1997). Longitudinal study of procrastination, performance, stress, and health: The costs and benefits of dawdling. *Psychological Science, 8*, 454-458. doi:10.1111/j.1467-9280.1997.tb00460.x

van Eerde, W. (2003). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences, 35*, 1401–1418.doi:10.1016/s0191-8869(02)00358-6

You, J. (2015). Examining the effect of academic procrastination on achievement using LMS data in e-learning. *Educational Technology & Society, 18*(3), 64-74.

Zimmerman, B. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology, 81*(3), 329-339. doi:10.1037/0022-0663.81.3.329

Zimmerman, B. (2000). Self-Efficacy: An Essential Motive to Learn. *Contemporary Educational Psychology, 25*, 82–91. doi:10.1006/ceps.1999.1016

Appendix I

Academic Procrastination Scale

The following questions assess your habits and routines as a student. Please answer the following as they apply to yourself.

How much do you, yourself agree to the following statements? (*Scored on a 1 to 5 Likert-type scale, with 1= Disagree and 5= Agree*)

1. I usually allocate time to review and proofread my work.*
2. I put off projects until the last minute.
3. I have found myself waiting until the day before to start a big project.
4. I know I should work on school work, but I just don't do it.
5. When working on schoolwork, I usually get distracted by other things.
6. I waste a lot of time on unimportant things.
7. I get distracted by other, more fun, things when I am supposed to work on schoolwork.
8. I concentrate on school work instead of other distractions. *
9. I can't focus on school work or projects for more than an hour until I get distracted.
10. My attention span for schoolwork is very short.
11. Tests are meant to be studied for just the night before.
12. I feel prepared well in advance for most tests. *
13. "Cramming" and last minute studying is the best way that I study for a big test.
14. I allocate time so I don't have to "cram" at the end of the semester. *
15. I only study the night before exams.
16. If an assignment is due at midnight, I will work on it until 11:59.
17. When given an assignment, I usually put it away and forget about it until it is almost due.
18. Friends usually distract me from schoolwork.
19. I find myself talking to friends or family instead of working on school work.
20. On the weekends, I make plans to do homework and projects, but I get distracted and hang out with friends.
21. I tend to put off things for the next day.
22. I don't spend much time studying school material until the end of the semester.
23. I frequently find myself putting important deadlines off.
24. If I don't understand something, I'll usually wait until the night before a test to figure it out.
25. I read the textbook and look over notes before coming to class and listening to a lecture or teacher. *

** Indicates reverse-scored items*

Appendix II

Academic Self-Efficacy Scale

Please answer the following questions indicating how much each statement is true for you. Using the rating scale below, write the number that best reflects your answer on the space provided before each question.

ACADEMIC SELF-EFFICACY SCALE (ASE)

:_____	:_____	:_____	:_____	:_____	:_____	:_____
1	2	3	4	5	6	7
Very Untrue						Very True

____ 1. I know how to schedule my time to accomplish my tasks.

____ 2. I know how to take notes.

____ 3. I know how to study to perform well on tests.

____ 4. I am good at research and writing papers.

____ 5. I am a very good student.

____ 6. I usually do very well in school and at academic tasks.

____ 7. I find my university academic work interesting and absorbing.

____ 8. I am very capable of succeeding at the university.

Appendix III

Demographic Form

1) Age: _____

2) Gender:_____

3) Nationality(ies):_____

4) Lebanese Baccalaureate Emphasis

   - o Economics and Sociology (ES)
   - o Literature and Humanities (LH)
   - o General Sciences (GS)
   - o Life Sciences (LS)

5) 1st semester average at school: _____ over a total of _____