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Academic Procrastination: Prevalence Among High School and Undergraduate Students and Relationship to Academic Achievement

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ACCEPTANCE

This dissertation, ACADEMIC PROCRASTINATION: PREVALENCE AMONG HIGH SCHOOL AND UNDERGRADUATE STUDENTS AND RELATIONSHIP TO ACADEMIC ACHIEVEMENT, by JILL OMER JANSSEN, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty. The Dean of the College of Education concurs.

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ACADEMIC PROCRASTINATION: PREVALENCE AMONG HIGH SCHOOL AND UNDERGRADUATE STUDENTS AND RELATIONSHIP TO ACADEMIC ACHIEVEMENT

by

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Under the Direction of Nannette Commander and Laura Fredrick

ABSTRACT

This dissertation presents a literature review on procrastination and more specifically research involving the domain of academic procrastination, characteristics/traits academic procrastinators exhibit, and two different types of academic procrastinators. Even though a comprehensive theory has not been established, social cognitive theory, attribution theory, and motivation theories contribute to our understanding of academic procrastination. Studies that investigate prevalence of high school and college students who procrastinate in international settings, and more specifically in the United States, are reviewed, along with the literature on the relationship between academic procrastination and achievement. Research has demonstrated with relative consistency that academic procrastination has significant adverse effects on academic progress (Ferrari et al., 2005; Moon & Illingworth, 2005) and that high percentages of undergraduate college students self-report they engage in academic procrastination (Steel, 2007).

The literature review is followed by an investigation that utilizes an adapted version of

the Procrastination Assessment Scale-Students (Özer & Ferrari, 2011), a self-report instrument, to measure students' academic procrastination. The purpose of this study was to investigate (a) the percentage of undergraduate college and high school students who self-report academic procrastination; (b) the frequency of academic procrastination among undergraduate college and high school students for the specific academic tasks of studying for exams, completing reading assignments, and writing papers; and (c) the relationship between academic procrastination and achievement of undergraduate college and high school students. Both on specific tasks and overall, significantly more college students report higher procrastination than high school students. Unexpectedly, this study did not find a significant relationship between academic procrastination and academic achievement, as measured by grade point average. This study highlights the importance of considering students' age when examining academic procrastination.

INDEX WORDS: Academic procrastination, Self-regulation, Active procrastination, Passive Procrastination

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ABBREVIATIONS

EPY	Educational Psychology
GSU	Georgia State University
OHRP	Office for Human Research Protection
PASS	Procrastination Assessment Scale for Students
TMT	Temporal Motivation Theory

A REVIEW OF THE LITERATURE ON PROCRASTINATION

Procrastination is a self-handicapping behavior that occurs when people delay completing a task they intend to complete, potentially leading to lost productivity, poor performance, and increased stress (Steel, 2007). In this review, the concept of procrastination and more specifically academic procrastination will be examined. Procrastination is a pervasive human event that there are over 600 self-help books addressing solutions to this phenomenon (Ferrarri, 2010). This behavior is so significant that in 2010 alone, 120 new books were written and published on this topic (McRaney, 2010). Even though procrastination is a common occurrence, the behavior is not fully understood.

Academic procrastination is considered a domain-specific form of self-regulation failure. Although academic procrastination is the form of procrastination most often researched, there is much to be explored. Current research does not support a theoretical model for academic procrastination. In addition, there is a significant lack of literature regarding the prevalence of high school and college students who procrastinate in international settings, and more specifically in the United States. This review will also examine literature regarding the relationship between academic procrastination and achievement. It is hoped that this review will contribute to research to assist educators in constructing interventions tailored to an individual student's specific profile and needs to minimize academic procrastination. This review will begin by discussing procrastination's history.

History

Ancient Egyptian hieroglyphics demonstrate that as early as 1400 B.C., people struggled with basic time management. Ronald Leprohon, an Egyptologist at the University of Toronto, translated a hieroglyphic that reads: "Friend, stop putting off work and allow us to go home in

good time" as cited in Konnikova from 2014. Six hundred years later, in 800 B.C., the Greek poet Hesiod stated, "Do not put your work off till tomorrow and the day after, for a sluggish worker does not fill his barn, nor one who puts off his work" (Hesiod, trans. 2008). In Agrarian societies, if farmers delayed gathering their crops for winter the family would not have enough to eat and would need the help of others in order to survive the winter. This failure to gather their crops impacted the community negatively and was bothersome to the other members of the group (Ferrari, Johnson, & McCown, 1995).

Romans also documented experiencing problems with procrastination. In 23 BC, Quintus Horatius Flaccus wrote Odes and in Book 1.11 used the phrase, "Carpe diem quam minimum credula postero" which has been translated in various ways such as "Seize the present; trust tomorrow e'en as little as you may" which is known as carpe diem or seize the day (Horace, trans. 1882). This ode describes the opposite of procrastination and stresses the importance of making the most of each day and to live in the present. The phrase also suggests people should not rely on the future because it is unknown.

Although procrastination negatively affected people in agrarian times, procrastination's impact became even more significant during the industrial revolution (Steel, 2007). In the 1750s, time and efficiency became key concepts due to the newly developed manufacturing processes. Dr. Samuel Johnson, who wrote the first comprehensive American English dictionary, occasionally discussed procrastination in a periodical called the *Rambler*. Johnson (1751) described procrastination as "The folly of allowing ourselves to delay what we know cannot be finally escaped is one of the general weaknesses which, in spite of the instruction of moralists, and the remonstrances of reason, prevail to a greater or less degree in every mind" (*The Samuel Johnson Sound Bite Page*, para. 3, 1751). Thus, Johnson found procrastination to

be a pervasive weakness in which most people engage in during their life.

History has clearly shown procrastination handicaps not only an individual person but also negatively impacts societies. Also, history illustrates that as society advances the impact of procrastination is greater as the number of commitments and deadlines increase and become more complicated. Thus, history suggests that procrastination's impact will become more substantial in the future due to procrastination being pervasive.

Procrastination is a common human behavior that has historically emerged as early as preschool. Walter Mischel conducted numerous studies at Stanford University throughout the late 1960s and early 1970s which examined people's ability to delay gratification and to exert self-control in the face of strong situational pressures and emotional temptations. Mischel was best known for his longitudinal study called "the marshmallow experiment" with over 600 preschoolers. Results clearly indicated that children who were able to overcome their desire for short-term reward in favor of a better outcome later were financially and educationally different than the children who picked the short-term reward.

"The marshmallow experiment" examined children's ability to forego immediate gratification and to wait instead for a larger desired, but delayed, reward. Each trial used 4 children (2 male and 2 female) who sat at a table in front of a bell and some treats. The children could pick a pretzel, a cookie, or a giant marshmallow. The researchers told the young children that they could either eat the treat right away or wait a few minutes for the examiner to run an errand. In addition, the children were told that if they waited, they would double their payoff and get two treats. If any of the children could not wait, he or she could ring the bell and the researcher would end the experiment for that child. Some children made no attempt at self-control and ate their treats right away. Other children stared intensely at the object of their desire

until they gave in to temptation. Many writhed in anticipation, twisting their hands and feet while looking away. Results of the study indicated that only a third of the children could wait the full time needed to double their treats (Mischel & Ayduk, 2004). Mischel described the children that could wait as displaying "goal-directed self-imposed delay of gratification." However, by itself, this experiment did not yield significant results that could be applied to understanding procrastination's impact.

In follow-up studies that occurred twelve to fourteen years later, this study which examined young children's ability to delay gratification demonstrated significant information when studying procrastination. In 1989, follow-up studies indicated that the preschool children who had delayed gratification later were financially and educationally different than the children who picked the short-term reward. These adolescents were described by their parents as significantly more competent in life. They were more physically fit, more social, more successful academically and professionally, and more able to cope with stressful situations (Mischel & Ayduk, 2004; Sethi, Mischel, Aber, Shoda, & Rodriguez, 2000).

Longitudinal results showed that children's ability to delay gratification also correlated with higher scores on the Scholastic Aptitude Test (SAT) and behavior such as attention and social skills (Mischel, Shoda, & Mendoza-Denton, 2002). Children who waited the fifteen minutes had SAT scores approximately 210 points higher than those who could wait only thirty seconds. Children who rang the bell quickly, in addition to their lower SAT scores, were found to have significantly more behavioral problems, both in school and at home, struggled in stressful situations, frequently had trouble paying attention, and found it difficult to maintain friendships. Examining children's abilities to delay gratification yields significant information when studying procrastination because results suggested that procrastination could be considered

to be about choosing between wants over obligations. Therefore, procrastination could be the equivalent of eating a marshmallow, or in other words, giving into an impulse such as avoiding working on an arduous project. Thus, procrastination frequently occurs when people cannot self-regulate their behavior and give into temptation for short-term gratification.

Definition of Procrastination

Due to procrastination having timeless origins and being a common-language term, researchers define procrastination in a multitude of ways. Currently, there is no absolute consensus among researchers for procrastination's definition because different researchers highlight various aspects of the behavior. However, the definition has evolved as more research has been conducted, and therefore, deeper understanding of procrastination has been reached. For this reason, in scholarly communities and for the general public, delay is a needed concept in understanding the accepted criteria for procrastination and fundamental due to the word's Latin origins (Lay, 1986; Solomon & Rothblum, 1984). The word procrastination originates from the Latin "procrastinatus," which is divided into two parts. The first part "pro" means "forward" and the second part "crastinatus" means "of tomorrow" (Klein, 1971). Thus, procrastination translates to delaying something until tomorrow.

A commonly used definition in procrastination research is "the putting off of that which is necessary to reach some goal" (Lay, 1986, p. 475). Some additional common definitions are "the tendency to delay or completely avoid responsibilities, decisions, or tasks that need to be done" (Tuckman & Sexton, 1986, p. 503). In addition, the Oxford English Dictionary defines procrastination as "the action or habit of postponing or putting something off." Nevertheless, these definitions are not adequate because a person could put off a task without having any intentions to work on the task. Thus, to exclude people who have no intention of completing a

task a layman's definition for procrastination is "to be slow or late about doing something that should be done; to delay doing something until a later time because you do not want to do it, because you are lazy, etc." (Merriam-Webster Dictionary, n d.). In other words, procrastination is to put off intentionally the doing of something that should be done. Therefore, many researchers include in the definition the concept that a person must intend to delay completing a task. Beswick and Mann (1994) stated that "procrastination is when we delay beginning or completing an *intended* course of action" (p. 391). Thus, this definition is more comprehensive but it is still not complete.

Procrastination cannot be simply defined as a person intentionally delaying completing a task due to people having differing perceptions regarding delay (Van Eerde, 2003). In addition to a person intending to delay a task, another component to the definition is that procrastination is "needless" in nature or avoidable. This concept is needed because some people delay completing a task on purpose in order to complete more important tasks. Thus, when more important tasks are needing to be completed delaying working on smaller or less important tasks would not be considered procrastination. When people delay completing the smaller tasks, a person is managing their time efficiently. An example of procrastination being avoidable is when a person choses to delay completing an important task in order to a more favorable and less important task such as socializing with friends.

Thus, in addition to the concept of intentionally avoiding a task, many researchers frequently include various additional concepts such as the delay being dysfunctional or a person experiencing emotional upset (Schouwendburg, 1995). Research has repeatedly demonstrated that when people delay completing a task it is a maladaptive response. Soloman and Rothblum (1984) define procrastination as "the act of needlessly delaying tasks to the point of experiencing

subjective discomfort" (p. 503). Ferrari (2010) uses a similar definition and defines procrastination as, "the process of delaying is voluntary or purposeful and deliberate. And the process feels uncomfortable, experiencing emotional unease from delaying" (p. 17). In addition to the delay aspect, many times there is also some aspect of psychological pain involved.

However, some research definitions do not include the aspect of psychological pain. While many people who delay completing a task will feel stress and other negative emotions, others may not. Many researchers debate whether people need to experience negative effects such as discomfort from anxiety or diminished performance to be classified as procrastinating (Steel, 2007). Therefore, research is burgeoning that examines a subtype of people who do not experience negative effects when procrastinating (Chu & Choi, 2005). This population reports they work better under pressure and their work quality does not suffer due to the delay. Thus, due to this emerging population, one proposed criteria for a behavior to be classified as procrastination is being counterproductive, needless, and delaying (Schraw, Wadkins, & Olafson, 2007). Therefore, the most commonly used definition that includes these criteria is "to voluntarily delay an intended course of action despite expecting to be worse off for the delay" (Steel, 2007, p. 66). Thus, this definition includes all three aspects of procrastination: delay, counter-productivity, and needlessness.

Identifying Features of Procrastination

Just as there are many different definitions of the concept of procrastination, there are many different emotions and personality features associated with the phenomenon (Fritzsche, Young, & Hickson, 2003; Lee, Kelly, & Edwards, 2006; Milgram, Dangour, & Raviv, 2001; Onwuegbuzie, 2004; Scher & Osterman, 2002). With regard to emotional functioning, researchers have found that depression and worry are associated with procrastination (Antony,

Purdon, Huta, & Swinson, 1998; Ferrari et al., 1995; Rothblum, Solomon, & Marakami, 1986; Stoeber & Joormann, 2001; Van Eerde, 2003), along with low self-esteem (Beck, Koons, & Milgrim, 2000; Ferrari, 2010). Researchers also discussed other associated personality traits such as perfectionism (Ferrari, O'Callaghan, & Newbegin, 2005), lower conscientiousness, and higher neuroticism to be related to procrastination (Johnson & Bloom, 1995; Lee, et al., 2006; Milgram & Tenne, 2000; Schouwenburg, 1995). Research clearly demonstrates that when procrastination becomes a way of life rather than an occasional behavior, people frequently suffer a wide range of negative consequences.

The most obvious impact people experience when procrastinating is added stress which affects their overall happiness. Haghbin and Pychyl (2013) completed a study in which 2,700 participants completed an online survey that asked, "To what extent is procrastination having a negative impact on your happiness?" Almost half reported "quite a bit" or "very much," and one person in five (18%) reported an "extreme negative effect." Thus, the majority of people in this study indicated procrastination has a negative impact on their lives.

Research has shown that people who procrastinate are not as healthy as people who do not procrastinate. One study indicates that added stress caused by procrastination might compromise the immune system resulting in people experiencing more colds or flus (Sirois, Melia-Gordon, & Pychyl, 2003). Additionally, Tice and Baumeister (1997) completed two longitudinal studies on the effects of procrastination on quality of performance, stress, and illness. In their work, they asked 100 participants to self-determine if they were or were not a procrastinator. Results showed that constantly elevated levels of stress hormones in the body negatively affect the metabolism, making people feel tired and lethargic, and prevent their immune systems from functioning effectively, which makes them susceptible to illness and

disease. With a distant deadline, people who started immediately on the project reported both stress and health problems concurrently. On the other hand, the people who waited to start the project reported significantly less stress and physical illness than the nonprocrastinators experienced at the beginning of the assignment. However, as the deadline approached, this relationship was reversed; procrastinators reported more stress, more symptoms of physical illness, and more medical visits than the nonprocrastinators. In addition, people who procrastinated produced lower work quality than the nonprocrastinators. Thus, this study found that when people reported they procrastinated, they displayed more significant negative effects both on production quality and health than their nonprocrastinating counterparts.

When people are exposed to stress over long periods of time, significant negative effects may occur such as people developing mental illnesses, which include anxiety disorders or depression (Ferrari et al., 1995; Stöber & Joormann, 2001). Chronic procrastinators are shown to have significantly higher levels of anxiety, which may be due to a lack of self-confidence and low self-efficacy (Fritzsche et al., 2003; Milgram et al., 2001; Onwuegbuzie, 2004; Scher & Osterman, 2002; Steel, 2007). In addition, procrastination and fear of failure are strongly correlated (Burka & Yuen, 1983; Ferrari et al., 1995, Solomon & Rothblum, 1984; Steel, 2007). Thus, people who procrastinate chronically may develop a constricted lifestyle in attempts to avoid certain activities which expose them to the risk of failing on a task. This condition is known as atychiphobia (DSM-IV, 2000). At this point, procrastination is known as an "anxiety monster" because fear of failure paralyzes a person from making a decision or completing an action. Thus, he or she becomes unable to start much-less finish a task.

In addition to developing anxiety disorders, people who are chronic procrastinators have the potential to become clinically depressed due to constant elevated levels of stress hormones.

When stress hormones are elevated for long periods of time people will feel fatigued easier. Thus, waning energy levels make many tasks more aversive to pursue (Steel, 2007). People who are depressed are frequently unable to take pleasure in life's activities, they tend to lack energy, and have problems concentrating, which are all symptoms that make task completion difficult (DSM-IV, 2000). People with depression find many tasks as being aversive tasks because the task is not liked or is unpleasant. Thus, the more aversive the task, the more likely people will procrastinate on the task. In addition, task aversiveness was found to be more significant when the projects were short-term, which supports the argument that people with depression frequently procrastinate (Lay, 1987, 1990). Currently, it is unclear if procrastination causes depression or if depressed people procrastinate.

To assist in clarifying many research questions, Steel (2007) completed a metaanalysis that examined the many different features associated with procrastination. In his research he also scrutinized the correlates of procrastination, discussed possible causes, and surveyed effects. This analysis addressed the different methods used by researchers to study procrastination and variation in results. Steel examined 206 sources (153 journal articles and 53 theses) and reported on a total of 684 independent correlations.

Steel's (2007) results indicated that a single factor cannot explain fully why people procrastinate on tasks, and contrary to previous thought, people's reasons for procrastinating vary greatly. Steel found strong and consistent predictors of procrastination. They were task aversiveness, task delay, self-efficacy, impulsiveness, and conscientiousness. Additionally, Steel found that procrastination was strongly associated with concepts such as distractibility, organization, achievement motivation, and an intention-action gap. Surprisingly, Steel found that procrastinators are less likely to be perfectionists. Instead the correlation that occurred most

frequently was that individuals who were prone to impulsiveness also tended to be excessive procrastinators.

The relationship between procrastination and impulsivity may be attributed to impulsive people choosing a small but immediate reward rather than working on a less attractive task. Steel's results from his metaanalysis support this explanation and found that people who procrastinate do so involuntary and typically agree with the statement, "No matter how much I try, I still put things off." In addition, when the results were corrected for unreliability, procrastination was found to be conceptually representative of a lack of conscientiousness and self-regulatory failure. Results indicated that seventy percent of the observed procrastination behaviors could be explained by self-regulation failure. Steel's overall conclusion was that the concept of procrastination represented self-regulatory failure.

Steel's (2007) conclusion that procrastination is a failure to self-regulate is strongly supported in the literature (Goldberg, 1990; Tice & Baumeister, 1997; Widiger & Trull, 1997). In addition, self-regulation failure is a widely accepted reason for why people procrastinate (Ariely & Wertenbroch, 2002; Chu & Choi, 2005; Dewitte & Schouwenburg, 2002; Ferrari, 2001; Schouwenburg & Groenwound, 2001; Tan et al., 2008; Tice & Bratslavsky, 2000; Tuckman & Sexton, 1989; Van Eerde, 2000; Wolters, 2003). Procrastination and self-regulation are highly correlated because when strategies or goals are picked inappropriately, people become more likely to procrastinate. This is because self-regulation requires a large amount of mental energy (Vohs et al., 2008). Thus, if a person has to reevaluate his or her strategy and goal selection frequently due to incorrectly assessing a task, a person can experience self-regulatory failure (Carver & Scheier, 2002).

Self-regulation refers to the way people exercise control over their performance, such as

guiding, monitoring, and directing their behavior to meet a particular goal (Singer & Bashir, 1999). Self-regulated learners will modify learning strategies and skills based on their awareness of effectiveness. On the other hand, people with self-regulation deficits exhibit difficulty planning, controlling, or monitoring their behavior without aid from an external source. In addition, people with self-regulation deficits demonstrate difficulties controlling their impulses to stop doing something or to start something.

People with self-regulation deficits frequently "give into the feel good" feelings that can come when avoiding completing a task (Tice & Bratslavsky, 2000). In addition, people who procrastinate are significantly more likely to delay completing unpleasant tasks and/or tasks where the reward is not immediate (Blunt & Pychyl, 2000; Lay, 1992). As an extension to self-regulation, people who procrastinate exhibit deficits in short-term mood repair and deficits in emotion regulation over long-term goals. These deficits often result in procrastination tendencies (Siros & Pychyl, 2013). In other words, people who procrastinate are "unable to delay their need for pleasure" (Ferrari, 2010). Thus, people who procrastinate voluntarily delay completing a task when the task is considered aversive, such as boring, frustrating, or lacking meaning.

The Classic Form of Procrastination

The classic form of procrastination occurs when a person chooses to work on something more enjoyable or less important than the task given. The person who engages in this form frequently does not acknowledge this as procrastination because he or she is "getting things done," but the person is still not completing the assigned task. This form of procrastination is becoming more prevalent in modern society (Steel, 2007). One explanation for this increase is that people are overloaded with tasks and want instant gratification (Gruber & Koszegi, 2001).

They avoid working on the bigger tasks when the reward or feeling of accomplishment is not as immediate as when completing smaller tasks (Kearns, Gardiner, & Marshall, 2008). In addition, when goals are far off, people get frustrated because they are unsure how to accomplish them. Therefore, people naturally choose the path of least resistance and prefer to work on small tasks that do not require as much time, planning, and/or energy as the bigger tasks (Ferrari, 2010). Although people who procrastinate understand that this delay will result in negative consequences such as guilt and shame, they feel better temporarily.

Due to procrastination being a common event, Park and Sperling (2012) examined motives and reasons for procrastination in regard to self-regulated learning on academically related tasks. As expected, interview results indicated that people with high-procrastination tendencies were less likely to report using cognitive and metacognitive learning strategies when compared to low procrastinators. In addition, people with high procrastination tendencies reported using defensive self-handicapping strategies such as avoiding a task or setting lower goals. Thus, people with high procrastination tendencies admitted they did not effectively self-regulate their behavior and failed completing their task efficiently.

While almost everyone has problems with procrastination, people who are low procrastinators use self-regulation strategies and available tools to overcome these tendencies (Ariely & Wertenbroch, 2002). One strategy that self-regulated learners use when completing big projects is called balancing task completion. This is when a person slows down or stops working on the smaller tasks to focus on the bigger task. Dale Carnegie, famous entrepreneur and philanthropist, advocated for the balancing task completion approach (Ferrari, 2010). Mr. Carnegie claimed that part of the key to his success was completing the difficult tasks before the easy ones. Balancing task completion is an effective strategy because all tasks require time and

energy, but big tasks need lots of time and energy to complete. This strategy maximizes a person's time and energy because the easy or more enjoyable tasks will always be there, such as errands, housework, and tasks without deadlines. The "absent-minded professor," who forgets to shave, or eat, or even perhaps looking where he's going while he's thinking about some interesting question is an example of this form of procrastination. His mind is absent from the everyday world because it is hard at work in another. Thus, this form of procrastination is often experienced by people who routinely complete complex and arduous tasks. In this case procrastination might be beneficial because even though not all the tasks are completed, the larger and more important are accomplished.

People who have difficulty delaying gratification exhibit procrastination issues (Eigsti et al., 2006; Tice, Bratslavsky, & Baumeister, 2001). Therefore, understanding the impact of self-regulation deficits is important because people who procrastinate exhibit failure of self-control in numerous areas of their lives. For example, children from the Marshmallow study who were followed through high school, college and into adulthood often procrastinated when they were exposed to other demands such as families, mortgages, and jobs (Mischel & Ayduk, 2004). Results clearly indicated that children who were able to overcome their desire for short-term reward in favor of a better outcome later were financially and educationally different than the children who picked the short-term reward. In addition, people who have appropriate self-regulation use a wide array of strategies when approached with difficulties. Thus, people who procrastinate hopefully can combat procrastination tendencies through understanding how to implement strategies effectively.

Academic Procrastination

Procrastination is a common event and is often unavoidable because there are thousands

of potential tasks that we could be doing at any time. However, procrastination has been found to be domain-specific. Researchers have identified six different aspects/domains of life where people procrastinate: academic and work, everyday routines and obligations, health, leisure, family and partnership, and social contacts (Gröpel & Kuhl, 2006; Klingsleck, 2013). Each domain possesses different prevalence rate and correlations with other constructs, reasons, and consequences. Thus, each domain should be analyzed independently to fully understand its characteristics, impact, and theoretical approaches. This review will focus specifically on the domain of academic procrastination.

Academic procrastination is the most researched procrastination domain (Jorke, Thau, Fries, 2011). This form of situational procrastination occurs when a person is passive in completing academically related tasks such as studying for an exam or talking to an instructor. People who procrastinate academically may be consciously or unconsciously aware they are engaging in the behavior. The most accepted definition used for academic procrastination is "intentionally delaying or deferring work that must be completed" (Schraw et al, 2007). This definition is similar to that which has been proposed for general procrastination in that it incorporates the aspects of intending to delay, lack of productivity, and avoidability, but this definition relates to the academic domain.

Academic procrastination might have a detrimental impact on a student's life due to the multitude of examinations, term papers, and projects during his or her scholarly career. Academic procrastination is similar to general procrastination in that it is negatively related to self-efficacy and life satisfaction and also positively related to stress and mental health (Klingsleck, 2013). However, research has shown that academic procrastination has a more significant impact than the other domains to an individual's well-being (Jorke et al., 2011) and is

related to depression (Solomon & Rothblum, 1984), anxiety (Rothblum et al., 1986; Stöber & Joormann, 2001), guilt (Pychyl, Lee, Thibodeau, & Blunt, 2000), neuroticism (Watson, 2001), irrational thinking (Bridges & Roig, 1997), and low self-esteem (Ferrari, 2000). Academic procrastination also has a harmful impact on academic achievement including lower grades, cheating, and lower grade point averages (Beck et al., 2000; Clark & Hill, 1994; Ellis & Knaus, 1977; Harriott & Ferrari, 1996; Roig & De Tommaso, 1995; Solomon & Rothblum, 1984; Wesley, 1994). Clearly, procrastination has a negative impact on an individual, but the actual profile of a person who procrastinates varies. Thus, due to the wide range of characteristics, there may be no typical profile of academic trait procrastinators, but there are some similarities that occur.

One of the most common reasons why individuals procrastinate on academic tasks is task aversiveness (Steel, 2007). In addition, the more aversive the situation, the more likely a person will procrastinate on the task (Anderson, 2001; Briody, 1980; Froelich, 1987; Haycock, 1993). Thus, when a person perceives a task as unenjoyable or unpleasant, it will be more common for a person to procrastinate completing that task (Blunt & Pychyl, 2000; Briody, 1980; Haycock, 1993; Strongman & Burt, 2000). This is particularly more likely when the person perceives that the task is boring, frustrating, difficult or forced. However, all academic procrastination cannot be simply explained due to task aversiveness. Other concepts need to be considered to fully understand the behavior.

Self-Efficacy

A major concept involved when studying academic procrastination is self-efficacy. This concept refers to a person's beliefs about his or her abilities to organize and execute actions needed to complete tasks (Bandura, 1995). Self-efficacy is related to academic procrastination

because students with low self-efficacy are more likely to stop putting forth effort when they encounter difficulties (Clark & Hill, 1994; Klassen, Krawchuk, Lynch, & Rajani, 2008; Lay, 1994; Solomon & Rothblum, 1984; Steel, 2007). In addition, when students have low self-efficacy, they will be more likely to doubt their ability to do well, will set less difficult goals for themselves, and exert less effort (Gredler, 2005; Wäschle et al., 2014). On the other hand, students with high self-efficacy will believe that they are competent when completing a task and will be less likely to avoid the task. Consequently, academic procrastination has been found to be inversely related to the strength of self-efficacy in a specific skill area and motivation for the task and reward (Klassen et al., 2008).

In addition to the amount of effort students exert, self-efficacy also relates with people's ability to manage their time and seek assistance when needed (Bandura, 1997). Students with high self-efficacy manage their time better and are more persistent when completing academic tasks. In addition, students with high self-efficacy are more aware when they need assistance than students with low self-efficacy. In other words, students with high self-efficacy appear to be self-regulated learners (Bandura & Wood, 1989; Locke & Latham, 1990; Zimmerman, Bandura, & Martinez-Pons, 1992; Zimmerman & Paulsen, 1995). When self-efficacy and self-regulation were put into a hierarchical regression, it was not surprising that the concepts were found to be strongly related (Strunk & Steele, 2011). In fact, Strunk and Steele concluded that self-regulation and self-efficacy are basically the same concept. Thus, students with high self-efficacy are self-regulated learners.

Self-Regulation

Students who are self-regulated learners are successful academically for a variety of reasons. First, self-regulated learners possess knowledge concerning cognitive strategies and

understand that when strategies are used appropriately, they increase and enhance learning (Schunk & Ertmer, 2000). Second, they possess metacognitive skills and can effectively monitor and control important aspects of their learning behavior. Consequently, they will use the "right tool for the job" and modify learning strategies and skills based on their awareness of effectiveness (Wieber & Gollwitzwer, 2010). Third, self-regulated learners exhibit adaptive motivational beliefs and attitudes toward mastering goals (Bandura, 1997; Pajares, 1996). Most importantly, self-regulated learners are not chronic procrastinators (Dietz, Hofer & Fries, 2007; Sencal, Koestner, & Vallerand, 1995; Wolters, 2003). Thus, self-regulated learners are successful academically because they control their learning and behavior through monitoring, directing, and regulating their actions toward effectively accomplishing goals (Schouwenburg, Lay, Pychyl, & Ferrari, 2004). Self-efficacy and self-regulation are closely related because both concepts are developed through attributions.

Attributions. In psychology, attribution is related to individual thinking and how individuals interpret events (Heider, 1958). Attribution theory addresses the information a student gathers and how the student combines the information to form a decision (Fiske, & Taylor, 1991). When people assign attributions to a behavior it must be observable, intentional, and originate from either internal or external causes. An important premise regarding attribution theory is that people will interpret their environment in such a way as to maintain a positive self-image (Weiner, 1992). Therefore, people will *attribute* their successes or failures to factors that allow them to feel as good as possible about themselves. Attribution theory also identifies three major elements related to outcomes for an academically related task: locus of control, stability, and controllability (Brownlow & Reasinger, 2000; Weiner, 1980). Each element significantly impacts a person's future behavior, including completing or procrastinating on a task. Studying

is one example of a behavior that overlaps all the elements but has a different meaning based on the element being examined.

Locus of control is possibly the most important element in attribution theory because this relates to people's belief in their ability to control events. In addition, research investigating individuals' locus of control provides perspective on a people's reasons behind procrastinating on a task. Locus of control is the extent to which an individual perceives a situation as controlled by internal efforts or externally controlled by outside forces (Brownlow & Reasinger, 2000). Therefore, locus of control can either be internal or external in nature. In addition, an internal locus is dispositional, and when success is attributed to internal factors, success will lead to pride and increased self-efficacy. Additionally, when an internal causal explanation is used, and a person fails at completing a task, that person will correlate the events and consequences of the behavior with his or her ability, diminished self-esteem, and self-efficacy. On the other hand, an external causal explanation is related to external situations, such as luck or coincidence (Weiner, 1980). So, to use the example of studying, people with an internal locus of control will feel that their study behavior will lead to success or failure and accept that effort and work will benefit them. People believing that success is within them are contrary to people with an external locus of control, who will perceive that the academic successes are not related to studying but rather factors which they have little control over such as bad or good luck, the teacher, or the test. Research has found that academic procrastinators are more likely to make external attributions for their successes (Carden, Bryant, & Moss, 2004; Howell & Watson, 2007; Janssen & Carton, 1999; Rothblum et al., 1987). In addition, students with an external locus of control may develop mood issues such as irrational beliefs, worry, depression, and anxiety when they are exposed to failure (Fritzsche et al., 2003; Pratt, Tallis, & Eyesenck, 1997;

Solomon & Rothblum, 1984; Stöber & Joormann, 2001). Therefore, results indicate that academic procrastinators are more likely to see the result of their behavior as unstable and beyond their control.

Similar to locus of control, stability also impacts people's behaviors. Stability takes into account people's likelihood to be persistent and perform future behaviors and examines whether or not people believe their behavior can change over time (Weiner, 1980). Stable causes, such as intelligence and laws, are generally considered relatively stable in nature because they are difficult, if not impossible, to change. Unstable causal factors, such as the amount of effort exerted toward a task, are ones that could be changed easily. Take for example students studying for exams. Students who relate their academic success or failure to a stable factor, such as intelligence, will perform the same behavior and expect similar results. However, when students believe their success or failure is related to a factor that is unstable, such as effort or luck, which are changing characteristics, students assign an unstable attribution to the tasks. One example of an unstable attribution is when students attribute their grade to the fact that they did not have much time to study that week. Thus, students will feel that they have the ability to change the outcome and therefore change their behavior by putting forth a different amount of effort next time.

Just as stability impacts a student's behavior, controllability does also. Controllability is one of the elements within attribution theory that people attribute to their success or failure. A controllable factor is one that people feel that they can change if desired. An example of a controllable factor is reading aptitude. When students believe they are in control of their academic ability, they will be motivated to exert effort towards completing academically related tasks, such as studying or completing assignments. In contrast, an uncontrollable factor is one

people perceive they cannot alter. Aptitude is an example of an uncontrollable factor. Thus, when struggling students believe their academic success or failure is related to aptitude, students will be less motivated to exert effort towards completing an academically related task because they will feel that failure is likely. In addition, children who have uncontrollable attributions have been found to have significantly lower perceived scholastic competence than children with controllable attributions, even when actual reading attainment was taken into account (Humphrey & Mullins, 2002). The relationship between controllability attributions for academic performance and perceived scholastic competence was found to be similar for children with dyslexia and their normally achieving classmates.

Attribution theory is significant when studying academic procrastination because each element within attribution theory significantly impacts a person's future behavior, including completing or procrastinating on a task. It could be hypothesized that a person who procrastinates academically will attribute academic tasks with an external locus of control, stable causes, and uncontrollable. On the other hand, a nonprocrastinator will view academic tasks with an internal locus of control, unstable causes, and controllable.

Affirmations

In addition to attributions, affirmations may impact academic procrastination (Lay, Edwards, Parker, & Endler, 1989; Lay & Silverman, 1996). Affirmations, also known as self-talk, are a common self-help strategy. A well-known example of self-talk occurred on Saturday Night Live with Stuart Smalley saying, "I'm good enough, I'm smart enough, and doggone it, people like me" (Franken, 1993). Even though Stuart was a fictional character in a comedy show, he was using a strategy that is research-based and widely used in support groups, such as Alcoholics Anonymous. Self-talk is a powerful strategy that impacts decisions and motivation to pursue

tasks because people will believe what they "hear" repeatedly (Weiner, 1980). Thus, self-talk has a significant impact on people's lives, although the results can be either negative or positive.

One negative impact of self-talk occurs when students repeatedly tell themselves that they cannot complete a task, resulting in low self-efficacy. Moreover, research indicates students who ascribe distressing events to internal and stable causes are more likely to have depressive symptoms, anxiety, or other mood issues when compared to students who explain events with external and unstable causes (Deniz, Tras, & Aydogan, 2009; Henry, 2005; Seligman et al., 1984). These negative thoughts impact the mind's ability to make decisions, and people will have less energy to complete a task. In addition, researchers have found people with elevated worry levels are slower to make decisions (Metzenger et al., 1990). Therefore, academic procrastination may occur because a person needs to rest and reenergize before he or she has the ability to complete the task (Tice & Bratslavsky, 2000; Tice et al., 2001). However, at this time there is not a standard profile for students who procrastinate academically.

Theoretical Framework

Currently, even though academic procrastination is an extensive and potentially harmful phenomenon, there is still much information that needs to be examined and understood. Research repeatedly shows that academic procrastination is a highly complex human behavior that involves a combination of affective, cognitive, and behavioral components and cannot be summarized easily (Brownlow & Reasinger, 2000; Chu & Choi, 2005; Steel 2007). Due to procrastination's highly integrative nature, no clear theory for academic procrastination has yet been developed. Even though a comprehensive theory for academic procrastination has not been established, its theoretical roots are found in social cognitive theory, attribution theory, and motivation theories. Each theory incorporates the key principles of self-efficacy, self-regulation,

and motivation, but each approaches academic procrastination from a unique angle.

Cognitive Theory

Cognitive theory is the first major theory to be associated with academic procrastination because it explains that student learning and motivation occur through an interaction of behavior, cognitive factors, and the environment (Gredler, 2005). Albert Bandura, the main researcher most associated with social cognitive theory, examined students' beliefs about their abilities and understanding of the achievement situation. Bandura believed that, as students learn, they self-direct or self-regulate which impacts their self-efficacy (1997). Social cognitive theory is particularly well-suited to explain the complex relationships of academic procrastination, self-efficacy, and achievement in the context of student learning. However, this theory is not complete because it does not take into account students' feelings.

Attribution Theory

Attribution theory is another important theory involved in the study of academic procrastination because it considers people's motivation by analyzing their reasons for success and failures (Gredler, 2005). This theory is important when studying academic procrastination because the motivation between high and low achievers is determined based on the attributions they assign to a task. According to attribution theory, high achievers will approach tasks rather than avoid tasks related to succeeding. However, this theory is not complete because it does not consider a student's ability to plan.

Motivation Theory

Due to the absence of a single theory, Steel proposed Temporal Motivation Theory (TMT) to explain procrastination in general (2007). TMT is similar to other theories because it takes into account a person's self-efficacy, motivation, deadline time, and ability to plan.

However, TMT is unique since it is an integrative motivational theory that emphasizes time as the critical motivational factor. TMT, nicknamed "The Procrastination Equation," examined procrastination as a measurable product by suggesting the following: Motivation = (Expectancy × Value) / {1 + (Impulsiveness ×Delay)}. In this equation, motivation to complete a task can be understood by the effects of expectancy and value, weakened by delay, with differences for rewards and losses. Thus, this equation describes that people are more likely to procrastinate on difficult tasks that are not enjoyable and those that have smaller rewards. This equation is not only used to explain academic procrastination, but the TMT is used to understand procrastination in general. Currently, the TMT is the most widely accepted because it incorporates the self-regulatory and self-efficacy theories and accounts for task aversiveness and the hyperbolic discounting of time (Steel, 2011). Consider for instance, the example of a student studying for an exam and consider the student who is unsure of his or her academic ability. The student's expectancy or self-efficacy is diminished, impacting the overall study motivation because the student expects to have a low grade.

Even though the TMT is the most accepted theory for procrastination, it has significant weaknesses. The most substantial weakness is that this theory possibly oversimplifies procrastination. In fact, Steel (2011) acknowledged this weakness by stating that not all procrastination variables were accounted for in this equation. He stated that this equation explains why a person avoids a task completely, but does not explain why a person delays a task. However, this theory is a major milestone in establishing a theoretical basis for general procrastination.

Additionally, the TMT equation is not used only to explain academic procrastination, rather, this theory is applied to understanding a wide range of dynamics, such as group behavior,

job design, stock market behavior, and goal setting (Steel & Konig, 2006). Thus, an example could be when someone is working on a project at their job. This equation demonstrates that when the reward of working is usually distant and sometimes low in expectancy, there is little consequence for not working because rewards are still available, such as being paid. The *value* of working is originally higher—you get paid for that, after all—but its *utility/motivation* after expectancy and time discounts may well be lower. However, motivation/utility will rise as a potential consequence, like a reward or punishment, gets closer in time. Thus, to simplify this example, people will usually procrastinate on a task until the person overcomes impulsiveness and the rewards gained from work overcome the immediate rewards, such as socializing with friends.

Even though TMT was designed to study general procrastination, this theory can be used to understand academic procrastination. Take for example a student who enjoys socializing and has an exam, which is scheduled for one month away. At the beginning of the month, based on this equation, the student will not study due to the exam being farther away and the reward of studying not being immediate (or in other words a low value). In addition, socializing is always present and an option because the student enjoys it. Thus, the motivation to study is lower than the motivation to socialize. Only towards the exam date, due to the discounting effects of time decreasing, does studying become increasingly likely.

Since Steel's equation is not specific to the domain of academic procrastination and is possibly over simplistic, Schraw et al. (2007) proposed a paradigm model to describe the phenomenon. They explored the positive and negative effects of academic procrastination by conducting a grounded theory study of academic procrastination. Grounded theory is a method of data collection in which subjects' experiences are used to create, describe, and validate the

theory, which results in a paradigm model. Grounded theory method uses participants' experiences as data to construct and validate this exploratory theory. The product of grounded theory method is a paradigm model that systematically links antecedents, situational conditions, coping strategies, and consequences to the phenomenon of interest. In this study, successful university students were interviewed about academic procrastination in four different stages. Data were collected on their responses to questions about antecedents of procrastination, definitions of procrastination, conditions that affect procrastination, coping strategies, and consequences. Even though this model is still evolving, future researchers can use it as a theoretical foundation to base their studies on academic procrastination.

The model is a 5-component paradigm that includes contexts and conditions, antecedents of procrastination, the phenomenon itself, coping strategies, and consequences (Schraw et al., 2007). The paradigm model that resulted from the research indicated that students attribute procrastination to three kinds of antecedents: characteristics of the self, the teacher, or the task. The model also shows that students use cognitive and affective coping strategies, such as protective self-talk or redistributing class work, when dealing with the negative effects of procrastination. Surprisingly, results indicated that academic procrastination could be adaptive and highly efficient. As expected, the authors stated their findings supported previous research regarding procrastination having an adverse impact on health and stress levels.

Schraw et al.'s (2007) research was exploratory in nature and results were based only on the opinions of successful college students. Thus, this model might not be applicable to students who are not successful academically, and further examination is needed. More research is needed to clarify factors, specifically antecedent factors, that predict who will engage in academic procrastination, the role of social systems, and situations that promote the behavior.

Types of Academic Procrastination

Despite the plethora of findings illustrating procrastination's damaging impact to life-satisfaction and mental health, recent research discovered that not all procrastination has negative consequences, such as lower grades and mental health issues (Chu & Choi, 2005; Ferrari et al., 1995; Schouwenburg, 2004). Chu and Choi (2005) presented active and passive procrastination to describe academic procrastination. Passive procrastination, which is the standard type of procrastination, occurs when the participants are passive in completing tasks and experience negative emotions while completing the task. However, active procrastination may not have a negative impact on a person's effectiveness. Results suggest that an active procrastinator might be exposed to short-term benefits when choosing to delay the completion of a task such as being able to work better under pressure. Thus, active procrastinators are capable of acting on their decisions in a timely manner, know the purposes of time, control of time, and have appropriate coping styles. It is suggested that the difference between those who engage in active and passive procrastination involves the ability to self-regulate (Choi & Moran, 2009). Active procrastinators exhibit successful time management skills and self-regulation while passive procrastinators exhibit deficits in these abilities.

Common Instruments Measuring Academic Procrastination

Numerous instruments are available for measuring procrastination. Some of them are: Adult Inventory of Procrastination (AIP; McCown & Johnson, 1989), Aitken Procrastination Scale (APS; Aitken, 1982), Decisional Procrastination Questionnaires (DPQI, DPQII; Mann, 1982; Mann, Burnett, Radford, & Ford, 1997), General Procrastination Scale (GPS; Lay, 1986), Procrastination Assessment Scale-Students (PASS; Solomon & Rothblum, 1984), Procrastination Log – Behavior (Lopez & Wambach, 1982), Procrastination Self-Statement Inventory (PSSI;

Grecco, 1984), Test Procrastination Questionnaire (TPQ; Kalechstein, Hocevar, Zimmer, & Kalechstein, 1989), and Tuckman Procrastination Scale (TPS; Tuckman, 1991). Not all the instruments above measure academic procrastination. The Procrastination Assessment Scale-Students (PASS), the Tuckman Procrastination Scale (TPS16), and the Academic Procrastination Scale (APS) are the three most acknowledged instruments used when studying academic procrastination. These are all self-reports where the respondent completes the survey using a Likert scale. The open-ended questions ask the participants to show how they might respond to typical academic situations that are known to evoke procrastination behavior. The three instruments have been found to have strong validity and have acceptable to good reliability.

The PASS-Students (Solomon & Rothblum, 1984) classifies participants as high or low procrastinators. The instrument was normed using a population of about 300 college students in undergraduate psychology courses. There were three purposes to this measure. The first was to determine the prevalence of procrastination among college students. The second was to examine the students' reasons for failure or task averseness. The third was to compare the results from this measure to other previously established measures of anxiety, depression, motivation, etc. Thus, the PASS can be used in a multitude of ways to measure students' academic procrastination tendencies.

The PASS instrument has a total of 38 items that are divided into two parts to classify individuals as procrastinators: the first part deals with frequency of procrastination on academic tasks and the second part assesses the degree to which this results in anxiety. The first part lists six different academic tasks (essay, daily readings, studying for an exam, administrative tasks, attending meetings, and general tasks). Respondents were asked to indicate on a 5-point Likert scale the degree to which they procrastinate on the task (1 = never procrastinate; 5 = always

procrastinate) and the degree to which procrastination on the task is a problem for them (1 = not at all a problem; 5 = always a problem). The results from the two areas for the six tasks are summed to provide a total procrastination score ranging from 12 to 60. High procrastinators are defined as those who score a 36 or above on the scale and low procrastinators are defined as those who scored a 35 or below. In addition, respondents are asked to indicate on a 5-point Likert scale the extent to which they want to decrease their procrastination behavior on each academic task (1 = do not want to decrease; 5 = definitely want to decrease). The second part requires students to rate 13 reasons for procrastinating on a term paper. The PASS is reported to be the most commonly used instrument in the study of procrastination with acceptable reliability and validity (Ferrari et al, 1995). The Cronbach alpha for the instrument is .69 for the first part and .89 for the second part with an overall reliability of .84 (Ferrari, 1989).

Research indicates low levels of internal consistency for the PASS (Fischer & Corcoran, 1994). The correlation for total procrastination as a problem was .26, and the correlation for reasons for procrastination was .80. The stability of the PASS is fair with a test-retest correlation of .80 for the total score. Although the scale has some weaknesses, the PASS has good concurrent validity with significant correlations between the PASS and the Beck Depression Inventory, Delay Avoidance Scale, Rosenberg Self-Esteem Scale, and students' grade point averages (Solomon & Rothblum, 1984). Thus, this measure is the most commonly used scale in research to measure academic procrastination.

Bruce Tuckman in 1991 designed a self-report measure used to measure procrastination and self-regulation performance. The instrument was originally 72 questions and given to 50 college juniors. All items were based on a 4-point Likert scale. After analyzing the results the item pool was reduced to 35 questions and readministered to 183 college juniors. The reliability

for the Tuckman 35-item procrastination measure was .90. Later the item pool was reduced again to 16 questions with an overall reliability of .86. Even though the Tuckman's scale (TPS 16) has slightly higher reliability than the PASS, the norming population was significantly smaller than the norming population used for the PASS. In addition, the PASS has been used in more studies that the TPS 16. The PASS has a history of being used with high school aged students when some of its items are deleted.

The Aitken Procrastination Scale (APS; Aitken, 1982) or also called the Aitken Procrastination Questionnaire (APQ) and the Aitken Academic Procrastination Scale (Pychyl et al., 2000) was developed as part of Aitken's dissertation. The instrument was normed on a convenience sample of 120 traditional aged undergraduate college students. The questionnaire consists of 19 questions interspersed in a 51 question instrument that measures time use. All items are based on a 5-point Likert scale. Participants indicate the degree of truthfulness (1 = true to 5= false). In this study, Pychyl et al. (2000) reported that the mean for the total procrastination score is 46.4 with a standard deviation of 12.0. The range of possible scores is 19 to 95. The coefficient alpha was .85 which suggested high reliability. In this correlational analysis, the APQ was positively correlated with number of late papers over multiple courses, timely completion of a term paper, and initiation of studying for exams. The APQ had significant relationships between procrastination and self-concept, cognitive structure and order, endurance as part of frustration and tolerance, anxiety, energy level or laziness. In a step-wise multiple regression, the predictor variables of self-concept, Math SAT score, and cognitive structure variable were reported as accounting for 27% of the variance in procrastination. These researchers found that APQ achievement scale negatively correlated with procrastination. Subsequent research using the APQ has been very limited.

Prevalence of Academic Procrastination

Academic procrastination is a prevalent problem among many college students who are faced with a multitude of examinations, term papers, and projects during their scholarly career. Research indicates that high percentages of undergraduate college students self-report that they engage in academic procrastination with approximately 75% of college students considering themselves as procrastinators (Potts, 1987), and almost one-half do it consistently and problematically (Day, Mensink, & O'Sullivan, 2000; Haycock, 1993; Onwuegbuzie, 2004; Solomon & Rothblum, 1984). Steel (2007) cited research in his metaanalysis that estimates 80% to 90% of undergraduate college students report they experience procrastination (Ellis & Knaus, 1977; O'Brien, 2002). More specifically, Solomon and Rothblum (1984) found that approximately one quarter of 342 undergraduate American college students who were enrolled in an introductory psychology course reported problems with procrastination. In addition, Clark and Hill (1994) found that between 30% and 45% of 184 undergraduate American college students who were enrolled in an introductory psychology course reported problems with procrastination, and between 55% and 60% of these students wanted to decrease their procrastination. Thus, academic procrastination is a significant problem for undergraduate students in America.

In addition to researchers examining academic procrastination in regard to American undergraduate students, this issue also has been examined internationally. Schouwenburg (1992) conducted research in the Netherlands with 278 participants and found that over 70% of undergraduate college students reported academic procrastination and about 20% reported chronic academic procrastination. Özer, Demir, and Ferrari (2009) investigated prevalence of academic procrastination with 203 Turkish undergraduate college students. They reported that

52% of students self-reported frequent academic procrastination. More recently, Özer (2011) found that 53% of 150 undergraduate Turkish college students reported experiencing academic procrastination. In addition, student age was found to be related to procrastination types where younger undergraduate students who are procrastinators, were more likely to engage in active procrastination, while the older students tended to engage in passive procrastination (Chu & Choi, 2005). Thus, there is a likely difference between students' age and academic prevalence because as people age, intrinsic self-control should be developed, and thus, people should procrastinate less.

The Role of Age

Due to the suspected relationship of student's age to academic procrastination some researchers over the years have investigated different aspects of academic procrastination with different aged students. Tuckman (1991) stated that as children progress through school, the parents and teachers take less responsibility for helping the child control his or her performance. Eventually, when the child reaches college, the student is expected to be able to self-monitor his or her own performance. Owens and Newbegin (1997) surveyed 418 Australian students from age 12 to 16 and found that as students became older, they were more likely to engage in academic procrastination. In addition, Van Eerde (2003) reported that age is negatively related to procrastination and that procrastinators are somewhat more likely to be found in a younger group. Steel (2007) supported Van Eerde's results and commented in his review that as individuals get older they procrastinate less. However, researchers report conflicting results regarding the relationship between age and procrastination (Ferrari, 2010; Milgram & Toubiana, 1999; Özer, 2011).

Despite academic procrastination and age being an important issue, there are only two

recent reports that have focused on the prevalence of self-reported academic procrastination by high school students. Özer (2011) found that 53% of 149 high school students in Turkey reported experiencing academic procrastination. In addition, Özer and Ferrari (2011) examined academic procrastination in 203 high school students in Turkey and found that 55% of the participants reported that they frequently engaged in academic procrastination. It should be noted that both of these studies occurred in Turkey. Thus, due to the lack of studies examining academic procrastination and high school students no formal conclusions can be made currently regarding the relationship between age and overall academic procrastination.

Academic Procrastination and Task Type

Another important aspect of academic procrastination is whether students may tend to procrastinate more frequently on certain types of tasks. Research clearly indicates that academic procrastination is task-dependent and that people exhibit procrastination in a variety of behaviors and settings (Ferrari, 2010). Undergraduate students in college are required to work on research reports and final year projects while effectively allocating time to complete their assignments. Studies have frequently focused on the common academic activities of studying for exams, completing assigned readings, and writing papers when investigating academic procrastination in students. Previous research by Solomon and Rothblum (1984) found that among 342 American undergraduate college students, 27.6% reported that they almost always or always procrastinate on studying for exams, 30.1% procrastinate on reading weekly assignments, and 46% procrastinate on writing a term paper. Özer et al.'s (2009) that with 784 undergraduate students in Turkey, 33% procrastinated when studying for exams, 30% procrastinated when completing reading assignments, and 30% procrastinated when writing term papers. In a later study, Özer (2011) found that with 150 undergraduate students in Turkey, 56% procrastinated when studying

for an exam, 39% procrastinated on completed reading assignments, and 38% procrastinated when writing a term paper. Thus, results suggest that among the different types of assignments, undergraduate students will procrastinate on different tasks. However, due to the limited number of studies examining academic procrastination based on tasks, no formal conclusions can be made presently.

In addition to the limited number of studies examining undergraduate procrastination by task, very few studies have investigated this concept with high school students. Milgram and Toubiana (1999) investigated self-reporting of academic procrastination with 354 Israeli high school students and found that students reported procrastinating more when approaching homework and examinations than when writing papers. A later study by Özer (2011) found that out of 149 students, 47% of high school students in Turkey reported that they procrastinated when studying for exams, 40% procrastinated when completing reading assignments, and 27% procrastinated when writing term papers. Thus, due to the lack of studies it is unknown how age level impacts a person's tendency to procrastinate on specific tasks.

Due to the limited number of studies available as well as the existence of contradictory results, more studies are needed. Ferrari (2010) reported that the impact of age is a myth and that there will be no significant difference in the prevalence rates for people's tendency to procrastinate by age. This finding was based on examining international samples and through studying only undergraduate college students. Aside from Ferrari, some researchers have found evidence that there is a significant relationship between age and procrastination prevalence (Owens & Newbegin, 1997; Steel, 2007; Van Eerde, 2003). Results indicated a significant difference between older and younger students in regard to procrastination and anxiety (Grusnschel, Patrzek, & Fries, 2013). Another major finding relating to age occurred when

Milgram and Toubiana (1999) conducted a study with high school students that indicated older children displayed behaviors related to academic procrastination, such as completing more favorable tasks first or turning in assignments late. Therefore, results of current research that support a relationship between age and academic procrastination are inconclusive.

Academic Procrastination's Relationship to Achievement

In the same way that the relationship between academic procrastination and age is unclear, the correlation between academic procrastination and academic achievement is also highly debated. Academic achievement results are frequently explained in terms of cramming, anxiety during exams, and quitting studying. An abundance of research has shown that the passive form of academic procrastination has significant adverse effects on academic progress, such as late assignments, lower grades, and course withdrawals (Beswick, Rothblum, & Mann, 1988; Rothblum, et al., 1986; Synn, Park, & Seo, 2005; Tice & Baumeister, 1997; Van Eerde, 2003). Research also indicates that passive form of academic procrastination often results in cramming and staying up all night to complete assignments (Saddler, & Buley, 1999). Akinsola, Tella, and Tella (2007) found a significant negative correlation between academic procrastination and mathematics academic achievement. Thus, the more the subjects procrastinated, the more their achievement in mathematics suffered.

It is assumed that people who procrastinate academically will have lower grades and lower academic achievement when compared to their nonprocrastinating peers due to having poorer self-regulation skills (Zimmerman, et al., 1992). However, several studies have found that academic procrastination had little effect on academic achievement (Beck, et al, 2000; Beswick, et al., 1988; Lay, 1986; Pychyl, et al, 2000; Solomon & Rothblum, 1988). Due to the inconsistent results, further examination into this topic is greatly needed.

Gaps in the Research

Although there is agreement that academic procrastination is a self-handicapping behavior that negatively impacts people, there is little research that examines the relationship of age to academic procrastination and little to no agreement on how prevalence of academic procrastination varies by age. While the peer-review literature contains several articles discussing academic procrastination, very few studies have examined the frequency with which students engage in academic procrastination with different types of tasks, and none have examined the prevalence of academic procrastination by task for American high school students. Thus, there are numerous gaps in the literature that present opportunities for future research such as examining prevalence between college and high school students for self-reporting academic procrastination.

Based on these research gaps, study is needed to determine the frequency of academic procrastination among American undergraduate college and high school students for the specific academic tasks of studying for exams, completing reading assignments, and writing papers. Future research could focus on the frequency and percentage that undergraduate college and high school students report academic procrastination. In addition, future research could analyze the relationship of a student's age to academic procrastination. This research gap could lead to important information regarding profiles of academic procrastination that might lead to designing more specific instructional techniques and/or strategies to lessen the negative impacts of academic procrastination or decrease the probability that students will procrastinate.

Contribution to the literature

In order to develop strategies for dealing with procrastination, researchers must better understand the behavior. There is a need for research assessing the differences among high

school and undergraduate college students on their procrastination prevalence. Thus, this research will contribute to our understanding of how academic procrastination presents itself as a student becomes older and how effective strategies may be designed for both high school and college students. For example, previous research indicates that some strategies include students being well organized by starting out small to accomplish the larger goal. A student may need to prepare a scale of daily preferences dividing major projects that seem overwhelming into little pieces. What is not getting done in one day can be added to the next day's list.

This research will also help professionals better understand what tasks students are most likely to delay starting. If this research indicates that students are more likely to procrastinate completing larger tasks, people who have problems with procrastination may need to start with the easiest task and proceed from there to a more rigorous and demanding tasks. Success in the easier task is likely to motivate individuals to complete more difficult tasks and hence build confidence in their ability to tackle academic matters.

In addition, students who procrastinate may need training on improving study skills. Tuckman (2003) completed research on students' study skills and demonstrated that by teaching specific learning and motivational strategies it is possible to lessen students' academic procrastination behavior. Those students who received the strategy training earned significantly higher GPAs (i.e., 0.48 points higher than those who did not complete the training). Learning assistance, offered individually to students and through groups such as study skills courses, has proven to be the most successful intervention. In these settings, students can discuss the concerns and attitudes that may affect their probability to engage in academic procrastination.

Conclusion

Academic procrastination is a multifaceted issue that has impacted many students

throughout history. This chapter discussed research involving procrastination and more specifically academic procrastination. Academic procrastination is considered a domain-specific form of self-regulation failure. Researchers and practitioners agree that academic procrastination is not clearly understood. This chapter contributes to the understanding of academic procrastination through a review of the literature by discussing possible theoretical frameworks to use to better understand the phenomenon and its causes. In addition, this review discussed instruments used to gather information on academic procrastination and previous research discussing academic procrastination prevalence. Over the last few years there has been an increase in research and theoretical development in academic procrastination however the behavior is not clearly understood to this date. This chapter helps professionals understand that not all academic tasks will be procrastinated on equally. In addition, this review contributes to the understanding that academic procrastination may vary by age. Chapter 2 examines the relationship between student's age and overall academic procrastination and specific tasks. This research will provide important information regarding prevalence of academic procrastination, the relationship between academic procrastination and studying for exams, completing reading assignments, and writing papers, and the relationship between academic procrastination and achievement.

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2 ACADEMIC PROCRASTINATION: PREVALENCE AMONG HIGH SCHOOL AND UNDERGRADUATE STUDENTS AND RELATIONSHIP TO ACADEMIC ACHIEVEMENT

Procrastination is often a self-handicapping behavior that can lead to lost productivity, poor performance, and increased stress (Steel, 2007). Procrastination is a complex phenomenon that cannot be simply defined as a person intentionally delaying completing a task due to people having differing perceptions regarding delay (Van Eerde, 2003). Because procrastination is a common-language term, researchers define procrastination in a multitude of ways, and there is no absolute consensus among researchers for a definition of procrastination because different researchers highlight various aspects of the behavior. Three proposed criteria for a behavior to be classified as procrastination is being counterproductive, needless, and delaying (Schraw, Wadkins, & Olafson, 2007). Hence, the most commonly used definition that includes this criterion is "to voluntarily delay an intended course of action despite expecting to be worse off for the delay" (Steel, 2007, p. 66). Thus, this definition includes all three aspects of procrastination: delay, counter productivity, and needlessness.

Procrastination is a common event and often unavoidable because there are thousands of potential tasks that we could be doing at any time. However, procrastination has been found to be domain-specific. Researchers have identified six different aspects/domains of life where people procrastinate: academic and work, everyday routines and obligations, health, leisure, family and partnership, and social contacts (Gröpel & Kuhl, 2006; Klingsleck, 2013). Each domain possesses different prevalence rates, correlations with other constructs, reasons, and consequences. Thus, each domain should be analyzed independently to fully understand its characteristics, impact, and theoretical approaches. This study will focus specifically on the

domain of academic procrastination and its relationship to academic achievement.

Academic procrastination is the most researched procrastination domain (Jorke, Thau, Fries, 2011). This form of situational procrastination occurs when a person is passive in completing tasks related to academics such as studying for an exam or talking to an instructor. People who procrastinate academically may be consciously or unconsciously aware that they are engaging in the behavior. The most accepted definition used for academic procrastination is "intentionally delaying or deferring work that must be completed" (Schraw et al., 2007). This definition is similar to that which has been proposed for general procrastination in that it incorporates the aspects of intending to delay, lack of productivity, and avoidability, but this definition relates to the academic domain.

Academic procrastination can have a negative impact on a student's life due to the multitude of examinations, term papers, and projects during his or her scholarly career. Academic procrastination is similar to general procrastination in that it is negatively related to self-efficacy and life satisfaction and positively related to stress and mental health problems (Klingsleck, 2013). However, research has shown that academic procrastination has a more significant impact than the other domains to an individual's well-being (Jorke et al., 2011) and is related to depression (Solomon & Rothblum, 1984), anxiety (Rothblum, Solomon, & Murakami, 1986; Stöber & Joormann, 2001), guilt (Pychyl, Lee, Thibodeau, & Blunt, 2000), neuroticism (Watson, 2001), irrational thinking (Bridges & Roig, 1997), and low self-esteem (Ferrari, 2000). Academic procrastination also has a harmful impact on academic achievement including lower grades, cheating, and lower grade point averages (Beck, Koons, & Milgram, 2000; Clark & Hill, 1994; Ellis & Knaus, 1966; Harriott & Ferrari, 1996; Roig & De Tommaso, 1995; Solomon & Rothblum, 1984; Wesley, 1994). Clearly, procrastination may have a negative impact on an

individual, but the actual profile of a person who procrastinates varies. Due to the wide range of characteristics, there may be no typical profile of academic procrastinators, but there are some similarities that occur.

Research has shown that poor self-regulation leads to procrastination (Bandura, 1997; Dietz, Hofer & Fries, 2007; Pajares, 1996; Sencal, Koestner, & Vallerand, 1995; Sims, 2014; Wolters, 2003). Self-regulation refers to the way people exercise control over their performance, such as guiding, monitoring, and directing (Singer& Bashir, 1999). Self-regulated learners possess knowledge concerning cognitive strategies and understand that when strategies are used appropriately, they increase and enhance learning (Dietz et al., 2007; Schunk & Ertmer, 2000; Sencal et al., 1995; Wolters, 2003). In addition, self-regulated learners are successful academically, because they control their learning and behavior through monitoring, directing, and regulating their actions toward effectively accomplishing goals (Schouwenburg, Lay, Pychyl, & Ferrari, 2004). On the other hand, people who procrastinate and are unsuccessful at reaching their goals often have difficulty planning, monitoring, and adjusting their performance (Wieber & Gollwitzwer, 2010).

Knowing and using appropriate planning skills is one key to avoiding academic procrastination. When people plan correctly, people will better focus their ideas which help them decide on the steps they need to take in order to achieve a particular goal. Planning involves initiation, design, execution, and monitoring. Research indicates academic procrastination does not occur in the initiation or design phase; procrastinators and non-procrastinators will both design a plan of action to complete a task (Henderson, Gollwitzer, & Oettingen, 2007; Wieber & Gollwitzwer, 2010). However, people who procrastinate with academic tasks execute their task significantly later when compared to nonprocrastinators

(Pychyl, Morin, & Solomon, 2000; Steel, 2007).

Not all people who procrastinate have self-regulation deficits. Chu and Choi (2005) discussed active and passive procrastination. Passive procrastination, or the more commonly discussed form of procrastination, occurs when the participants are passive in completing tasks and experience negative emotions while completing the task. People who engage in passive procrastination demonstrate self-regulation deficits. However, people who engage in active procrastination do not demonstrate similar deficits in their ability to self-regulate (Choi & Moran, 2009). Active procrastinators are people who are capable of acting on their decisions in a timely manner, and their effectiveness is not negatively impacted. This population understands the purpose of time, knows how to control their use of time, and demonstrates appropriate coping styles. Thus, active procrastinators will display different characteristics than passive procrastinators and might be exposed to short-term benefits. In addition, active procrastinators may work better closer to the due date when they are under pressure.

Research repeatedly shows that academic procrastination is a highly complex human behavior that involves a combination of affective, cognitive, and behavioral components and cannot be summarized easily (Brownlow & Reasinger, 2000; Chu & Choi, 2005; Steel 2007). Currently there is no clear theory for academic procrastination. Schraw et al. (2007) noted no existing theory or process model of procrastination and proposed a paradigm model that includes antecedents of procrastination, the phenomenon itself, contexts and conditions, coping strategies, and consequences. Through interviews with successful college students about their own procrastination behavior, they constructed a preliminary paradigm model that provides a systematic analysis of the process of procrastination. This analysis identifies two adaptive characteristics (cognitive efficiency and peak experience) and three maladaptive characteristics

(laziness, fear of failure, and postponement of work), with participants indicating that adaptive aspects had a greater impact on procrastination than maladaptive aspects. In other words, students reported that they procrastinated for adaptive reasons and that they believed that procrastination did not have a negative impact on learning. Although results are based only on the opinions of successful college students, the view that procrastination is adaptive and highly efficient may explain the prevalence of its occurrence.

Academic procrastination is not a clearly understood concept, and the limited research on academic procrastination occurred mostly with college students. Solomon and Rothblum (1984) found that about one quarter of 342 undergraduate American college students who were enrolled in an introductory psychology course reported problems with procrastination. Schouwenburg's (1992) study conducted in the Netherlands on 278 participants indicated that over 70% of undergraduate college students reported academic procrastination, with about 20% reporting chronic academic procrastination. Clark and Hill (1994) found that between 30% and 45% of 184 undergraduate American college students who were enrolled in an introductory psychology course reported problems with procrastination, and between 55% and 60% of these students wanted to decrease their procrastination. Steel (2007) cited research in his meta-analysis that estimates 80% to 90% of undergraduate college students report they experience procrastination (Ellis & Knaus, 1977; O'Brien, 2002). Özer, Demir, and Ferrari (2009) investigated prevalence of academic procrastination with 203 Turkish undergraduate college students. They reported that 52% of students self-reported frequent academic procrastination. Recently, Özer (2011) found that 53% of 150 undergraduate Turkish college students reported experiencing academic procrastination. Based on these results, high percentages of undergraduate college students self-report that they engage in academic procrastination.

While researchers over the years have mainly focused on investigating academic procrastination with college students, there is some literature available on school-aged children. However, these studies report conflicting results regarding the relationship between age and procrastination. Owens and Newbegin (1997) studied 418 Australian students from age 12 to 16 years and found as students become older they are more likely to engage in academic procrastination. Van Eerde (2003) found a reverse relationship and reported that students are more likely to procrastinate academically when they are younger than when they are older. Steel (2007), in his review, supported Van Eerde's results and commented that as individuals get older, they procrastinate less. However, Özer's (2011) results showed a significant difference among the academic levels of students, with undergraduates claiming to procrastinate more than high school students. The relationship between age and procrastination remains unclear.

There are only two recent reports that have focused on the prevalence of self-reported academic procrastination for high school students. Özer (2011) found that 53% of 149 high school students in Turkey reported experiencing academic procrastination. In addition, Özer and Ferrari (2011) examined academic procrastination in 203 high school students in Turkey and found that 55% of the participants reported that they frequently engaged in academic procrastination. Unfortunately, most research studies on prevalence of academic procrastination has focused on undergraduate college students, and I am not aware of any study that investigated academic procrastination prevalence with American high school students. Since existing research provides conflicting results regarding the role that academic level or age plays with academic procrastination, additional information is needed.

Another important aspect of academic procrastination is the relationship between procrastination and certain types of tasks. Research clearly indicates that academic

procrastination is task-dependent and that people exhibit procrastination in a variety of behaviors and settings (Ferrari, 2010). Studies often have focused on the common academic activities of writing papers, studying for exams, and completing assigned readings when investigating academic procrastination in undergraduate college students. For example, Solomon and Rothblum (1984) found that among the 342 American undergraduate college students, 46% reported that they almost always or always procrastinate on writing a term paper, 28% procrastinate on studying for exams, and 30% procrastinate on reading weekly assignments. Özer et al. (2009) indicated that with 784 undergraduate college students in Turkey, 30% procrastinated when writing term papers, 33% procrastinated when studying for exams, and 30% procrastinated when completing reading assignments. In a later study, Özer (2011) found that with 150 undergraduate college students in Turkey, 38% procrastinated when writing a term paper 56% reported procrastination when studying for an exam, and 39% procrastinated on completed reading assignments.

Very few studies have investigated procrastination on academic tasks with high school students. Milgram and Toubiana (1999) investigated self-reporting of academic procrastination with 354 Israeli high school students and found that students reported procrastinating more on homework and examinations than in writing papers. A later study by Özer (2011) found that out of 149 students, 47% of high school students in Turkey reported that they procrastinated when studying for exams, 40% procrastinated when completing reading assignments, and 27% procrastinated when writing a term paper. A careful review of the literature indicated that no studies compare American high school and undergraduate college students' self-report of procrastination on writing term papers, studying for exams, and completing reading assignments.

Another important area of academic procrastination is its relationship to achievement.

Research has demonstrated with relative consistency that academic procrastination has significant adverse effects on academic progress, and results are often explained in terms of late assignments, cramming, anxiety during exams, and quitting studying, which results in poor performance on tests or activities (Ferrari, O'Callaghan, & Newbegin, 2005; Moon & Illingworth, 2005; Scher & Osterman, 2002; Tice & Baumeister, 1997). Schouwenburg et al. (2004) found that people who engage in academic procrastination receive poor grades and evaluations because they take longer to return class assignments, hand in report outlines, and hand in final papers and that they are more likely to spend longer hours working on projects and studying. Akinsola, Tella, and Tella (2007) found a significant correlation ($r = 0.82$) between academic procrastination and mathematics academic achievement. Thus, the more the subjects procrastinated, the more their achievement in mathematics suffered. The studies cited above all investigated the relationship between academic procrastination and achievement with undergraduate American college students. While there appears to be a consistent relationship between academic procrastination and achievement, it is not clear if this relationship might be significantly different when examining high school students.

Thus, while research indicates that academic procrastination is a significant problem for students in all academic levels, the majority of research focuses on undergraduate college students rather than high school students. Further, the few studies that have been conducted with high school students studied academic procrastination outside of the United States. A careful review of the literature indicates a lack of research that has investigated self-report of academic procrastination with both American undergraduate college and high school students concurrently. In addition, studies that have investigated the percentage of undergraduate college and high school students who self-report academic procrastination on the tasks of studying for

exams, completing reading assignments, and writing yield varying results. To my knowledge, no study to date has compared self-report of procrastination on these specific tasks with undergraduate college and high school American students within the same study. Finally, research indicates consistently that there is a relationship between academic procrastination and achievement, but it is not clear whether this relationship may differ based on academic level.

The purpose of this research was to examine (a) the percentage of undergraduate college and high school students who self-report academic procrastination; (b) the frequency of academic procrastination among undergraduate college and high school students for the specific academic tasks of studying for exams, completing reading assignments, and writing papers; and (c) the relationship between academic procrastination and achievement of undergraduate college and high school students. Results of this study may contribute to an understanding of academic procrastination for both high school and undergraduate college students. Additionally, this research will provide valuable information to educational professionals regarding what tasks students are more likely to delay starting. Results of this study will contribute to the body of knowledge regarding academic procrastination and may have important educational implications for teachers, counselors, and parents.

The research questions are:

1. What is the percentage of undergraduate college and high school students who self-report academic procrastination?
2. What is the frequency of academic procrastination among undergraduate college and high school students for the specific academic tasks of studying for exams, completing reading assignments, and writing papers?
3. Is there a difference in the prevalence of academic procrastination (as measured by the

overall procrastination score) between high school and undergraduate college students?

4. Is there a difference in the prevalence of academic procrastination for specific academic tasks (studying for exams, completing reading assignments, and writing papers) between high school and undergraduate college students?
5. Is there a relationship between academic procrastination of high school students and their academic achievement?
6. Is there a relationship between academic procrastination of undergraduate college students and their academic achievement?

Methodology

A casual-comparative design was used to determine the answers to six research questions. A description of the participants, the procedure that was used to collect data, and the instruments used to collect the data are detailed in this section. The data analysis used to answer each research question is also included in this section.

Participants and Procedure

The population for this study was 98 high school students and 133 undergraduate college students from a large metropolitan research university. Participation was voluntary and confidential. The researcher went into several psychology high school classes to explain the details of this study. After the study was explained consent and assent forms were distributed (See Appendix A and B). The high school students were told that if they wanted to participate in the study they would have to return the assent and consent form completed with required signatures. As an incentive, students were offered a doughnut after they completed the study. Two days after the initial meeting, the researcher came back to the high school class to collect the completed assent and consent forms and to offer additional assent and consent forms for any

students who still wished to participate in the study. No additional students wanted to participate past that day. If additional students would have wanted to participate, two days after the second meeting, the researcher would have gone back to the high school class and collected the consent and assent form for any additional students wishing to participate in the study. After two days after the initial meeting, the examiner came back to collect the consent/assent forms. After the forms were collected the group of students were taken to a computer lab where they could sign onto the computer and go to the SurveyMonkey site (See Appendix C). Once they completed the study and logged out of the computer, the students received a doughnut and went back to their psychology class.

Undergraduate college students enrolled in several online sections of undergraduate Educational Psychology classes were invited to participate through a recruitment email sent by their Professor. The recruitment email contained details of the study, with an internet website address at the bottom (See Appendix D). College students were given the opportunity to earn 5 points added to the overall 100 course points for participation. Once the students clicked on the website, they were redirected to the SurveyMonkey site where they would see the consent form (See Appendix E). After consent was obtained from a student, each participant was given a website address on SurveyMonkey that allowed them access to the study (See Appendix C). After the college students completed the survey, they were given a second site on SurveyMonkey to provide their name and instructor's name so they could receive extra credit for their participation. Surveys were completed online by individual participants by a stated deadline date.

Measures and Analysis

Participants were administered an online survey containing two sections. An adapted

version of the Procrastination Assessment Scale-Students (PASS) from Özer and Ferrari was utilized, and demographic items were developed. The instruments are described below:

Procrastination measure. The Procrastination Assessment Scale-Students (PASS) was developed by Solomon and Rothblum (1984) to assess the prevalence of and reasons for academic procrastination. The PASS is the most widely used scale to explore procrastination on academically related tasks (Ferrari, Johnson, & McCown, 1995) and has been shown to generate reliable and valid scores (Ferrari, 1989). The PASS was developed by Solomon and Rothblum for multiple purposes, including assessing the prevalence of academic procrastination among students. Özer and Ferrari (2011) adapted the PASS, for high school students by deleting some of the items specifically related to university students. The adapted scale was found to have a Cronbach alpha of .69. This adapted version of the PASS by Özer and Ferrari was used for this study.

The first part of the scale consists of nine items that examine three academic tasks: (a) writing a term paper, (b) studying for examinations, and (c) keeping up with weekly reading assignments. Each of the three tasks is measured by (a) the frequency of procrastination on a task, (b) how much procrastination on a task is a problem, and (c) how much individuals want to decrease their procrastination on the task. The score for each task is the sum of these three measurements. Items are on a 5-point Likert scale, ranging from 0 to 4. The procrastination sum of each task was summed to provide an overall score for procrastination. The procrastination scale for each task can range from 0 to 12. The overall procrastination scale score can range from 0 to 36. Higher scores are indicative of higher self-reported procrastination.

Demographic questionnaire. A demographic questionnaire was used to gather information on participants' age, gender, race, year in school, and grade point average. Students

self-reported their overall grade point averages. The information obtained from the demographic survey was used to determine students' academic achievement and to describe the sample.

The six research questions and corresponding analysis follows:

1. What is the percentage of undergraduate college and high school students who self-report academic procrastination?
2. What is the frequency of academic procrastination among undergraduate college and high school students for the specific academic tasks of studying for exams, completing reading assignments, and writing papers?

Research Questions 1 and 2 were investigated using descriptive statistics (frequency and percentage) to illustrate the responses of the undergraduate college and high school students to items on the PASS.

3. Is there a difference in the prevalence of academic procrastination (as measured by the overall procrastination score) between high school and undergraduate college students?

A *t* test was conducted to determine if there is a significant difference in overall procrastination based on academic level (high school and undergraduate college). The independent variable was academic level and the dependent variable was the overall procrastination score.

4. Is there a difference in the prevalence of academic procrastination for specific academic tasks (studying for exams, completing reading assignments, and writing papers) between high school and undergraduate college students?

A multivariate analysis of variance (MANOVA) was conducted to determine if there was a significant difference in procrastination tasks based on academic level (high school and undergraduate college). The independent variable was academic level and the dependent

variables were the procrastination scores of specific academic tasks (studying for exams, completing reading assignments, and writing papers).

5. Is there a relationship between academic procrastination of high school students and their academic achievement?
6. Is there a relationship between academic procrastination of undergraduate college students and their academic achievement?

Research Questions 5 and 6 were analyzed for each group of students using a Pearson product-moment correlation procedure to determine if there was a relationship between academic procrastination (as measured by the overall procrastination score) and academic achievement (as measured by overall grade point average).

Results

Responses from 98 high school students and 133 college students were used to answer six research questions. Table 1 contains information about the average grade point average (GPA) and age of the participants. The average GPA of members of the college group was higher than that of the members of the high school group.

Table 1 Age and Grade Point Average of the Sample by Academic Level

	Academic level			
	High school (n = 98)		College (n = 133)	
Characteristic	*M*	*SD*	*M*	*SD*
Grade point average	2.87	0.92	3.21	0.48
Age	15.88	0.65	25.66	7.81

Table 2 contains the demographic description of the two groups. More females were in the college group (72%) than in the high school group (46%). A larger percentage of African Americans (63%) were in the high school group than were in the college group (45%). Over

60% of the members of the college group were juniors and seniors, while almost all of the high school students were sophomores (96%). The majority of the members of the college group were full-time students (77%).

Table 2 Demographic Description of the Sample by Academic Level

	Academic level			
	High school (n = 98)		College (n = 133)	
Characteristic	*N*	%	*n*	%
Gender				
Male	53	54.1	37	28.0
Female	45	45.9	95	72.0
Not Recorded	0	0	1	0.8
Ethnicity				
African American	62	63.3	60	45.1
Native American Indian	1	1.0	1	0.8
Asian/Pacific Islander	2	2.0	8	6.0
Caucasian	11	11.2	54	40.6
Hispanic	15	15.3	2	1.5
Other	7	7.1	8	6.0
Class				
Senior	1	1.0	44	33.1
Junior	2	2.0	37	27.8
Sophomore	94	95.9	26	19.5
Freshman	0	0.0	14	10.5
Other	1	1.0	12	9.0
Type of student				
Full-time	□	□	102	76.7
Part-time			31	23.3

Reliability of Procrastination Assessment Scale-Students

Reliability of the items was obtained using Cronbach's alpha (Table 3). Reliability values obtained for items describing writing a term paper and studying for exams were lower than items describing keeping up with weekly reading assignments and overall procrastination. The higher reliability values for overall procrastination may be a function of the number of items in the scale (9) compared to the number of items in each of the academic tasks (3).

The Procrastination Assessment Scale-Students (PASS) was used to assess the prevalence

of academic procrastination in three academic tasks: (a) writing a term paper, (b) studying for examinations, and (c) keeping up with weekly reading assignments. The responses to the three items for each task were summed. The procrastination scale for each task can range from 0 to 12. The overall procrastination scale score can range from 0 to 36. Higher scores are indicative of higher self-reported procrastination.

Table 2 Reliability of PASS by Academic Level

		Academic level		
Task	# of items	High school	College	Total
Writing a term paper	3	.57	.64	.61
Studying for exams	3	.61	.67	.64
Keep up with weekly reading assignments	3	.77	.70	.76
Overall procrastination	9	.83	.82	.83

Research Question 1

What is the percentage of undergraduate college and high school students who self-report academic procrastination?

To address Research Question 1, the range (0□36) of the overall academic procrastination was divided into four categories (Table 4). More high school participants (35%) self-reported moderate procrastination than did college participants (17%), while more college participants (57%) reported high procrastination than did high school participants (49%). Individuals reporting extreme procrastination were more than double at the college level (23%) than at the high school level (11%).

Table 3 Percentage of Academic Procrastination by Academic Level

	Academic level			
	High school		College	
Level of procrastination	*n*	%	*n*	%
Low (0□9)	5	5.0	4	3.0
Moderate (10□18)	34	34.7	23	17.3
High (19□27)	48	49.0	76	57.1
Extreme (28□36)	11	11.2	30	22.6

Research Question 2

What is the percentage of academic procrastination among undergraduate college and high school students for the specific academic tasks of studying for exams, completing reading assignments, and writing papers?

To address Research Question 2, descriptive statistics (percentage) was calculated for the responses of the undergraduate college and high school students to the nine items on the PASS (Table 5). Students who responded to items with a response of 0, 1, or 2 were labeled as low procrastinators. Those students who responded to items with a response of 3 or 4 were labeled as high procrastinators.

Table 4 Academic Procrastination by Academic Task and Academic Level

	High school		College	
	Type of procrastinator			
Items	% Low	% High	% Low	% High
Writing a term paper				
Degree	64	36	46	54
Is a problem	80	20	71	29
Want to decrease	52	48	31	67
Studying for exams				
Degree	54	46	50	50
Is a problem	69	31	70	30
Want to decrease	56	44	32	68
Weekly reading assignments				
Degree	65	35	38	62
Is a problem	80	20	62	38
Want to decrease	56	44	65	65

Results indicate that according to degree, more college students were high procrastinators when writing a term paper, studying for examines, and keeping up with weekly reading assignments than the high school students. In addition, more high school students were low procrastinators when writing a term paper, studying for examines, and keeping up with weekly reading assignments than the college students.

Research Question 3

Is there a difference in the prevalence of academic procrastination (as measured by the overall procrastination score) between high school and undergraduate college students?

A *t* test was conducted to determine if there was a significant difference in overall procrastination based on academic level. The independent variable was academic level and the dependent variable was the overall procrastination score. The results of the analysis (Table 6) indicated that participants at the college level had significantly higher overall academic procrastination than did participants at the high school level.

Table 5 Difference in Academic Procrastination by Academic Level

Academic level	*n*	*M*	*SD*	*T*	*p*
High school	98	20.16	6.69		
College	133	23.14	6.08	3.53	< .01

Research Question 4

Is there a difference in the prevalence of academic procrastination for specific academic tasks (studying for exams, completing reading assignments, and writing papers) between high school and undergraduate college students?

A multivariate analysis of variance (MANOVA) was conducted to determine if there was a significant difference in procrastination tasks based on academic level. The independent variable was academic level and the dependent variables were the procrastination scores of specific academic tasks (studying for exams, completing reading assignments, and writing papers). Table 7 contains the means and standard deviations of the specific academic tasks. Table 8 contains the results of the MANOVA. The multivariate analysis indicated differences between the two academic levels; the univariate analyses indicated a statistically significant

difference between the two academic levels on each academic task. In each case, the participants at the college level reported higher academic procrastination.

Table 6 Means and Standard Deviations of Tasks by Academic Level

	Academic level			
	High school (n = 98)		College (n = 133)	
Characteristic	*M*	*SD*	*M*	*SD*
Writing a term paper	6.84	2.38	7.51	2.41
Studying for exams	6.98	2.58	7.65	2.37
Keep up with weekly reading assignments	6.35	2.99	7.98	2.57

Table 8 Differences in Academic Procrastination by Academic Level

Analysis	*F*	*P*
Multivariate		
Wilks' lambda	6.39	< .01
Univariate		
Writing a term paper	4.47	.04
Studying for exams	4.24	.04
Keep up with weekly reading assignments	19.80	< .01

Research Questions 5 and 6

Is there a relationship between academic procrastination of high school students and their academic achievement?

Is there a relationship between academic procrastination of undergraduate college students and their academic achievement?

Research Questions 5 and 6 were analyzed for each group of students using a Pearson product-moment correlation procedure to determine if there was a relationship between academic procrastination (as measured by the overall procrastination score) and academic achievement (as measured by overall grade point average). Table 9 contains the results of the two analyses. The relationship between academic procrastination and academic achievement was low and not statistically significant at each academic level.

Table 7 Relationship between Academic Procrastination and Academic Achievement by Academic Level

Academic level	*N*	*Correlation (r) of academic procrastination and academic achievement*
High school	98	-.09
College	133	-.09

Discussion

Procrastination is a self-handicapping behavior that occurs when people delay completing a task they intend to complete, potentially leading to lost productivity, poor performance, and increased stress (Steel, 2007). There are three areas that this study is investigating:(a) the percentage of undergraduate college and high school students who self-report academic procrastination, (b) the frequency of academic procrastination among undergraduate college and high school students for the specific academic tasks of studying for exams, completing reading assignments, and writing papers, and (c) the relationship between academic procrastination and achievement of undergraduate college and high school students. The adapted version of the Procrastination Assessment Scale-Student was administered to high school and undergraduate students. There

are several noteworthy findings especially in regards to overall academic procrastination prevalence and academic procrastination by task.

Overall Academic Procrastination

This is the first study that has examined the prevalence of overall academic procrastination for American college students in over twenty years (Clark &Hill, 1994). Results indicate 97% of 133college students reported experiencing academic procrastination, a slightly higher rate of students than in previous studies (Ellis & Knaus, 1977). This is a noteworthy finding indicating the number of college students who report experiencing academic procrastination has increased. This increase may be possibly due to greater demands in the college setting. Students may feel overwhelmed with the number of tasks that they need to accomplish leading to additional stress and academic procrastination.

Findings of this study support results of an investigation by Özer (2011) with undergraduates reporting significantly more engagement in academic procrastination then high school students. Results from this study, indicate that 79% of 133 college undergraduate students and 60% of 98 high school students report either experiencing high or extreme academic procrastination. This is a noteworthy finding because its results reemphasize the importance of considering age when researching academic procrastination. However, due to numerous studies suggesting that as students get older they should procrastinate less, this is an area that needs further exploration to fully understand the importance that age plays (Van Eerde, 2003; Steel, 2007; Owens & Newbegin, 1997).

Academic Procrastination by Task

A study by Solomon and Rothblum examined the prevalence of academic procrastination among American college students on six tasks: writing a term paper, studying for examinations,

reading weekly assignments, administrative tasks, attendance, and school activities in general (1984). In this study, prevalence of procrastination among high school and college students is assessed on three tasks: writing a term paper, studying for examinations, and reading weekly assignments. Results reveal that among 133 American undergraduate college students, 50% reported they almost always or always procrastinate when studying for exams, 62% procrastinate on reading weekly assignments, and 54% procrastinate on writing a term paper. These results indicate the majority of college students procrastinate on academic tasks, and these percentages are higher than in previous studies with US students and international students (Özer et al., 2009; Solomon & Rothblum, 1984).

Among the 98 high school students, 46% report they almost always or always procrastinate when studying for exams, 35% procrastinate on reading weekly assignments, and 36% procrastinate on writing a term paper. This current study is unique because it is the first to examine the prevalence of academic procrastination by task for American high school students. Interestingly, Milgram and Toubiana's (1991) study with Israeli high school students reports procrastinating more ***in*** reading weekly assignments and studying for examinations than in writing papers. However, this study's results are similar to Özer's (2011) study in which Turkish high school students reported higher levels of procrastination in studying for exams and completing homework than in writing papers.

Another interesting finding occurs when examining the difference in prevalence for degree of academic procrastination among undergraduate college and high school students for the three academic tasks: writing a term paper, studying for examinations, and reading weekly assignments. College students report significantly higher levels of academic procrastination than high school students in the academic areas of writing a paper, studying for an exam, and com-

pleting reading assignments. Similar to academic procrastination by task for American high school students, this discussion is limited due to the number of studies examining academic procrastination prevalence based on tasks. The only study that is known to compare high school students and undergraduate college students' prevalence on different academic tasks occurred in Turkey (Özer, 2011). Özer's results indicate that college students report significantly higher levels of academic procrastination in the academic areas of writing a paper and studying for an exam. Similar prevalence rates were reported for both high school and undergraduate college students in completing reading assignments. Due to the limited number of studies comparing academic procrastination prevalence for high school and undergraduate college students based on academic tasks, no formal conclusions can be made presently regarding which group would be more likely to procrastinate on a specific task.

Academic Procrastination Relationship to Achievement

Another interesting finding occurred when examining the relationship between academic procrastination and academic achievement. In this current study, the relationship between academic procrastination and academic achievement, as measured by overall grade point average, was found to be -.09 and not significant for either high school or undergraduate college students. These results were slightly unexpected because research involving undergraduate college students typically finds modest negative correlations between academic procrastination and achievement. A previous study found that the average correlation for overall academic performance across 41 studies in Steel's (2007) meta-analysis was -.20. However, other studies found that academic procrastination has little effect on academic achievement (Beck, et al, 2000; Beswick, et al., 1988; Lay, 1986; Pychyl, et al, 2000; Solomon & Rothblum, 1988).

Limitations/Issues

A major limitation for this study is the small sample size that was used. This study's results were collected from students enrolled in a psychology course in one public high school and an online educational psychology undergraduate college course. In addition, the college students were all educational majors. Further research with a longitudinal design with a larger and more demographically diverse populations with random selection will strengthen the findings of the study. Another limitation is the use of self-report measures as the sole indicators of procrastination rather than actual observation of behavior. This may result in participants giving socially favorable answers rather than those that reflect true behavior or grade point average.

Future Directions

This work has implications for future researchers, high school and college students, and instructors. Results of research studies indicate academic procrastination is commonly reported by Turkish and American students; however, when study results are compared, American students report higher levels of academic procrastination than Turkish students (Özer, 2011; Özer et al., 2009). In addition, Klassen et al. (2009, 2010) conducted a cross-cultural study using students in high school and college in Canada and Singapore. Results were examined in regard to academic procrastination using a cross-cultural framework. Singapore students report higher levels of procrastination than Canadian students, suggesting that different cultural-ethnic groups may vary in the way define and describe procrastination behaviors.

Conclusion

This research investigating the difference among high school and undergraduate college students on academic procrastination prevalence contributes to our understanding of how academic procrastination presents itself as a student becomes older. Additionally, this research provides a beginning foundation to educational professionals regarding what tasks students are

more likely to delay starting. These findings have important educational implications for teachers, counselors, and parents. Future research will help professionals better understand what tasks students are most likely to delay starting. In addition, if future research indicates that students are more likely to procrastinate completing larger tasks, people who have problems with procrastination may need to start with the easiest task and proceed from there to more rigorous and demanding tasks. Success in the easier task is likely to motivate individuals to complete more difficult tasks and hence build confidence in their ability to tackle academic matters.

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APPENDICES
APPENDIX A
Assent Form

Title: Academic Procrastination: Prevalence Among High School and Undergraduate Students and Relationship to Academic Achievement.

You are invited to participate in a research study. The purpose of the study is to find out about how often students procrastinate. You are invited to participate because you are a high school student. A total of 200 participants will be recruited for this study. It will take between 10-15 minutes to complete this study. You will need access to the internet.

If you and your parent/guardian agree to participate, you will be given an internet website address to complete the survey. Signing this form indicates your assent to participate. This study will ask you to answer 9 questions regarding your academic procrastination and 6 demographic questions. Your name will not appear anywhere on the survey. At the end of the survey, you will be asked to give your name so your instructor can give you a donut for volunteering.

In this study, you will not have any more risks than you would in a normal day of life.

Participation in this study may not benefit you personally. Overall, we hope to gain information regarding what tasks students are more likely to delay starting.

Participation in this study is voluntary. You do not have to be in this study. Your parent(s)/legal guardian(s) cannot make you participate. You can drop out anytime. You may skip questions. You may stop participating at any time. If you do drop out, you will not lose any of your benefits.

We will give you a copy of this assent form to keep.

If you are willing to volunteer for this research, please sign below.

_____ _____

Participant Date

_____ _____

Principal Investigator Date

APPENDIX B

Georgia State University
Department of Educational Psychology
Parent Permission Form

Title: Academic Procrastination: Prevalence Among High School and Undergraduate Students and Relationship to Academic Achievement.

Principal Investigator: Dr. Nannette Commander (Faculty Advisor)
Jill Janssen (Student P.I.)

I. Purpose:

Your child is invited to participate in a research study. The purpose of the study is to find out how often students procrastinate. Your child is invited to participate because he/she is a high school student. A total of 200 participants will be recruited for this. If you and your child to agree to participate, it will take between 10 to 15 minutes to complete this study. Your child will need access to the internet.

II. Procedures:

Your child will get an internet website address that your child can log into to complete a series of surveys. If you do not wish for your child to participate, then do not return this form.

This study will ask your child to answer 9 questions regarding academic procrastination and 6 demographic questions. Your child's name will not appear anywhere on the survey. At the end of the survey your child will be given a separate website where he/she can give his/her name to get the assignment credit. Students who do participate in the study will get a donut after completing the study.

III. Risks:

In this study, your child will not have any more risks than he/she would in a normal day of life.

IV. Benefits:

Participation in this study may not benefit your child personally. Overall, we hope to gain information regarding what tasks students are more likely to delay starting.

V. Voluntary Participation and Withdrawal:

Participation in this study is voluntary. Your child does not have to be in this study. Your child can drop out anytime. Your child may skip questions. Your child may stop participating at any time. If your child does drop out, he/she will not lose any benefits of his/her benefits.

VI. Confidentiality:

We will keep your child's records private to the extent allowed by law. Jill Janssen and team will have access to the information your child provides. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP), and the Cobb County School System Institutional Review Board). A study number will be used for data collection. Your child's name will not be on study records. Data will be kept in a locked closet in a locked office. All electronic data associated with this research project will be kept in a password, firewalled protected computer. Only the investigators will have access to the data. Data will be kept for a maximum of one year and then destroyed. All printouts of participants' data will be shredded. Your child's name and other specific information about your child will not be used when we present this study or publish its results. The findings will be summarized and reported in group form.

VII. Contact Persons:

Call Dr. Nannette Commander at (404) 413-8040, ncommander@gsu.edu or Jill Janssen at 404-988-4778, jjanssen1@student.gsu.edu if you have questions, concerns, or complaints about this study. You can also call if you think your child has been harmed by the study. Call Susan Vogtner in the Georgia State University Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu if you want to talk to someone who is not part of the study team. You can talk about questions, concerns, offer input, obtain information, or suggestions about the study. You can also call Susan Vogtner if you have questions or concerns about your child's rights in this study.

VIII. Copy of Consent Form to Subject:

We will give you a copy of this consent form to keep.

My signature below indicates that I have read the information provided and have decided to allow my child to participate in this study.

Signature _____ _____
Parent Date

Child's Name _____ (please print child's name)

GSU APPROVED
IRB NUMBER: H13114
IRB APPROVAL DATE: 02/06/2014
IRB EXPIRATION DATE: 08/18/2014

APPENDIX C

Assessment Measure

For each of the following activities, please rate the degree to which you delay or procrastinate. Rate each item according to how often you wait until the last minute to do the activity. Then indicate the degree to which you feel procrastination on that task is a problem. Finally, indicate the degree to which you would like to decrease your tendency to procrastinate on each task.

WRITING A TERM PAPER

1. To what degree do you procrastinate on this task?

Never procrastinate	Almost never	Sometimes	Nearly always	Always procrastinate
0	1	2	3	4

2. To what degree is procrastination on this task a problem for you?

Not at all a problem	Almost never	Sometimes	Nearly always	Always a problem
0	1	2	3	4

3. To what extent do you want to decrease your tendency to procrastinate on this task?

Do not want to decrease		Somewhat		Definitely want to decrease
0	1	2	3	4

STUDYING FOR EXAMS

4. To what degree do you procrastinate on this task?

Never procrastinate	Almost never	Sometimes	Nearly always	Always procrastinate
0	1	2	3	4

5. To what degree is procrastination on this task a problem for you?

Not at all a problem	Almost never	Sometimes	Nearly always	Always a problem
0	1	2	3	4

6. To what extent do you want to decrease your tendency to procrastinate on this task?

Do not want to decrease		Somewhat		Definitely want to decrease
0	1	2	3	4

KEEPING UP WITH WEEKLY READING ASSIGNMENTS

7. To what degree do you procrastinate on this task?

Never procrastinate	Almost never	Sometimes	Nearly always	Always procrastinate
0	1	2	3	4

8. To what degree is procrastination on this task a problem for you?

Not at all a problem	Almost never	Sometimes	Nearly always	Always a problem
0	1	2	3	4

9. To what extent do you want to decrease your tendency to procrastinate on this task?

Do not want to decrease		Somewhat		Definitely want to decrease
0	1	2	3	4

10. What is your gender?
_ Male
_ Female

11. What is your ethnicity?
_ African American
_ Native American Indian
_ Asian/Pacific Islander
_ Caucasian/European
_ Hispanic/Latino
_ Other

12. What is your class standing?
_ Freshman
_ Sophomore
_ Junior
_ Senior

13. What is your age? _____

14. What is your overall grade point average (GPA)? _____

15. Are you currently a full-time or part-time student? (*College only)*
    _ Part-time
    _ Full-time

16. What is your major? (*College only)*

APPENDIX D

Recruitment E-mail for College Students

Hello, my name is Jill Janssen. I am a doctoral student at Georgia State University. I am conducting research to investigate how often students procrastinate in completing different types of academic related activities. You are invited to participate because you are a college student in an online section of EPY. Five points of extra credit will be offered to the overall 100 points for students who participate in the study. The time to complete the survey is about 15 minutes. If you agree to participate, click on the website address below. Please contact Dr. Nannette Commander at (404) 413-8040, ncommander@gsu.edu or Jill Janssen at 404-988-4778, jjanssen1@student.gsu.edu if you have questions or concerns about this study.

[Link to research study website with consent form]

Thank you!
Jill Janssen
Ph.D. Candidate
Georgia State University
College of Education
Department of Educational Psychology

APPENDIX E

Georgia State University
Department of Educational Psychology
Informed Consent for College Students

Title: Academic Procrastination: Prevalence Among High School and Undergraduate Students and Relationship to Academic Achievement.

Principal Investigator: Dr. Nannette Commander (Faculty Advisor)
Jill Janssen (Student P.I.)

I. Purpose:

You are invited to participate in a research study. The purpose of the study is to investigate how often students procrastinate. You are invited to participate because you are a student college in an online section of EPY. A total of 200 participants will be recruited for this study. It will take between 10 to 15 minutes and to complete this study. You will need access to the internet.

II. Procedures:

You must be 18 or older to participate in this study. If you agree to particpate, you will be given an internet website address to complete the survey. Completing the survey indicates your consent to participate. If you do not wish to participate, but want the extra credit, then notify your instructor.

This study will ask you to answer 9 questions regarding academic procrastination and 7 demographic questions. Your name will not appear anywhere on the survey. At the end of the survey, you will give your name so your instructor can give you extra credit.

Five points of extra credit will be added to the overall course points for students who participate in this study. Students who do not want to participate in the study can get extra credit by completing an assignment. The extra credit assignment will be worth 5 points to the overall course points and require the student to find a psychology study online and highlight the main purpose(s), some of the method, and major findings.

III. Risks:

In this study, you will not have any more risks than you would in a normal day of life.

IV. Benefits:

Participation in this study may not benefit you personally. Overall, we hope to gain information regarding what tasks students are more likely to delay starting.

V. Voluntary Participation and Withdrawal:

Participation in this study is your choice. You do not have to be in this study. You can drop out

at any time. You may skip questions. You may stop participating at any time. If you do drop out, you will not lose any of your benefits. If you agree to participate and change your mind, email Jill Janssen at jjanssen1@student.gsu.edu and let her know your study ID number. Your information will be removed and destroyed.

VI. Confidentiality:

We will keep your records private to the extent allowed by law. Jill Janssen and team will have access to the information you provide. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP), and the Cobb County School System Institutional Review Board). A study number will be used for data collection. Your name will not be on study records. Data will be kept in a locked closet in a locked office. All electronic data associated with this research project will be kept in a password, firewalled protected computer. Only the investigators will have access to the data. Data will be kept for a maximum of one year and then destroyed. All printouts of participants' data will be shredded. Agreement to participate emails, and the code which connects the agreements to the id numbers will be kept by Jill Janssen. Your name and other specific information about you will not be used when we present this study or publish its results. The findings will be summarized and reported in group form.

VII. Contact Persons:

Call Dr. Nannette Commander at (404) 413-8040, ncommander@gsu.edu or Jill Janssen at 404-988-4778, jjanssen1@student.gsu.edu if you have questions, concerns, or complaints about this study. You can also call if you think you have been harmed by the study. Call Susan Vogtner in the Georgia State University Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu if you want to talk to someone who is not part of the study team. You can talk about questions, concerns, offer input, obtain information, or suggestions about the study. You can also call Susan Vogtner if you have questions or concerns about your rights in this study.

VIII. Copy of Consent Form to Subject:
You may print a copy of the Letter of Consent from this site if you would like to have it for your records.

If you agree to participate in this research, please click the continue button.