The Fine Points of Working under Pressure:  
Active and Passive Procrastination among College Students

DISSERTATION

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By

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Abstract

This dissertation considers the occurrence of passive and active procrastination among undergraduate students. As a multiple-manuscripts dissertation, it contains three major chapters in the form of standalone manuscripts—specifically, a literature review (Chapter 2), quantitative study (Chapter 3), and qualitative study (Chapter 4)—as well as a brief introduction (Chapter 1) and conclusion (Chapter 5).

Although procrastination typically has been conceived of as a maladaptive tendency, other conceptions of procrastination propose that an adaptive form of procrastination may exist. The contrast between these opposing forms of procrastination can be viewed in terms of the distinction between a passive approach (i.e., avoidance, waiting to be acted upon) and an active one (i.e., intention, acting upon). The literature review in Chapter 2 examines conceptualizations and research evidence that support passive procrastination as having a negative valence and active procrastination as having a positive valence, particularly in terms of motivation and educational implications. The summary of the research also, however, indicates areas where there is insufficient or mixed evidence and points out ways in which active procrastination relates to elements often considered to be educationally maladaptive. The review concludes with suggestions for future research that will contribute to what is known about the active form of procrastination.
In the study presented in Chapter 3, I examined passive and active procrastination among undergraduate anatomy students in terms of background variables, motivational beliefs (i.e., belief about the speed of knowledge acquisition, self-efficacy, and task value), and grades. Factor analysis revealed three discrete factors of active procrastination, one of which was closely tied to passive procrastination and behavioral procrastination. Analyses indicated that the relations to motivational beliefs and grades were markedly different for, on the one hand, two factors of active procrastination (positive relations) and, on the other hand, passive procrastination and the third factor of active procrastination (negative relations). After controlling for ability, only passive procrastination was a significant predictor of grades. Results imply that the components of active procrastination that appear adaptive for learning may not reflect behavioral procrastination, whereas the component of active procrastination that involves behavioral procrastination lacks adaptive associations.

The purpose of the phenomenological study in Chapter 4 was to understand the experience of college students who procrastinate in an active manner—that is, those who intentionally choose to procrastinate and believe doing so is beneficial (see Choi & Moran, 2009; Chu & Choi, 2005). Through writing study journals and participating in interviews, seven undergraduates at a large Midwestern university gave voice to the lived experience of active procrastination. Their descriptions revealed three major themes about choosing to work under pressure: doing so facilitates efficient academic work (I’m good at it), is a workable system (I’ve learned I can), and is reinforced by positive
academic and social outcomes (It’s worth it). For each of these themes, there was a related flipside that, while palpable, often did not fully outweigh the perceived benefits.

Together, Chapters 2, 3, and 4 provide insight into the conceptualization, associations, and experience of procrastination and its different forms. Each study takes a different angle on procrastination in order to inform scholarly understanding and practical implications.
To Rick, for your patience and support during all my educational endeavors.
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Chapter 1: Understanding Students’ Procrastination Tendencies

Nick, Patrick, and Anna are students in a challenging science course, and midterms are approaching. The day before the exam, Nick enjoys catching up with friends, confident that he is already prepared. Patrick begrudgingly pulls out his notes and starts to reread them, knowing that he cannot delay preparing for the exam any longer. Anna settles in at her desk and focuses intently on her study guide, fueled by the challenge of the looming deadline. Each student represents a different approach to time management and schoolwork. Whereas Nick has worked ahead of the deadline, both Patrick and Anna might be described as procrastinators—yet there is something notably different about their behavior, and likely their motivation and learning strategies, as well.

Although there may be a Nick, Patrick, and Anna in every class, it appears that a movement toward understanding the dimensions of and motivation behind Anna’s behavior has developed only recently. Although Patrick’s behavior is procrastination in the traditional, passive sense, a behavior from which educators have long aimed to dissuade students, Anna is engaging in what is called active procrastination (Choi & Moran, 2009; Chu & Choi, 2005), a behavior about which there is no clear consensus.

Assume that all we knew about Patrick and Anna was that they both delayed studying—would this necessarily mean that both were procrastinating in the same sense
of the word? If their approaches to procrastination differ, should one expect their motivation and outcomes to differ, as well? The purpose of this dissertation is to investigate distinct procrastination tendencies, with the goal of enhancing scholarly understandings of academic procrastination in the lives of undergraduate students. In the form of a multiple-manuscripts dissertation, I examine passive procrastination and active procrastination in a literature review and two empirical studies, paying particular attention to the conceptualization of active procrastination.

**Procrastination: Passive and Active Forms**

Procrastination can occur in any area of life and pertains to the delay or postponement of activities (e.g., returning a phone call, doing homework). A typical definition of procrastination is the “tendency to put off or completely avoid an activity under one’s control” (Tuckman, 1991, p. 474). When procrastination occurs in the domain of educational experiences, it is known as academic procrastination. For students, the activities being procrastinated can include any form of academic work, including writing papers, scheduling course-related appointments (e.g., meeting with an advisor or attending office hours), completing weekly readings, or preparing for exams (Solomon & Rothblum, 1984a).

Procrastination in postsecondary education is widespread (Rabin, Fogel, & Nutter-Upham, 2011). Although procrastination is certainly not a new phenomenon (R. Sommer, 1968), it is increasingly common among college students (Odaci, 2011). Other aspects on the rise include not only students’ reports of working better under pressure but
also scholars’ support for the idea that students can indeed work better under pressure (Choi & Moran, 2009; Chu & Choi, 2005; Schraw, Wadkins, & Olafson, 2007). The idea of working better under pressure suggests that procrastination is a purposeful behavior that offers students some benefit, as opposed to procrastination being an activity of last resort that harms students. The detriments of procrastination are represented in the view of passive procrastination, whereas the benefits are represented in the view of active procrastination. I provide a brief overview of both concepts below, beginning with passive procrastination.

In traditional conceptions of procrastination, scholars use descriptions that clearly frame it as undesirable: procrastination is “pernicious form of self-regulatory failure” (Steel, 2007, p. 65), an “emotionally expensive and maladaptive coping strategy” (Beck, 1998, p. 535), and “a personal weakness, flaw, or bad habit” (Paden & Stell, 1997, p. 17). These conclusions are based on consistent evidence demonstrating negative relations to motivation, affect, learning strategies, and grades (Ferrari, 2001; Rothblum, Solomon, & Murakami, 1986; Steel, 2007). As a strategy representing the avoidance of academic work and carrying with it a number of negative connotations, traditional procrastination is viewed as passive procrastination (Chu & Choi, 2005).

The nomenclature of passive procrastination allows for the consideration of a uniquely different form of procrastination: active procrastination. Active procrastination reflects the possibility that procrastination can be something students choose to do, something that not only lacks negative repercussions but also enables students to reach
their goals. The sense that procrastination can be an effective strategy has roots in the idea of arousal procrastination (Ferrari, 1992), that is, delaying in order to experience the stimulation of working under pressure. Chu and Choi (2005) and Choi and Moran (2009) expanded upon this concept in academic settings through their development of a multidimensional construct of active procrastination. Their conception “includes cognitive (decision to procrastinate), affective (preference for time pressure), and behavioral (task completion by the deadline) components as well as the physical results and satisfaction with them” (Chu & Choi, 2005, p. 247). These factors represent the antithesis of what is typically conceived of as passive procrastination.

Understanding and supporting principles related to effective learning and motivation can inform the efforts of those who aim to play a role in college students’ success (Keeling, 2004); however, what scholars and educators know about procrastination continues to evolve. In light of research indicating positive motivational, psychological, and educational correlates of active procrastination, scholars have suggested that “burdening students with needless guilt and anxiety about their ‘lax’ study habits appears to be unjustified” (Vacha & McBride, 1993, p. 10) and that perhaps “teachers and students should be more accepting of procrastination or even attempt to promote ‘safe procrastination’” (Schraw et al., 2007, p. 23). Claims that active procrastination is adaptive for college students remain tentative (Corkin, Yu, & Lindt, 2011), however, and have yet to outweigh the strong evidence that says the opposite about procrastination as a whole (Steel, 2007). Thus, before practitioners can fully
consider whether to implement such recommendations, there is a need to gather and take into account additional evidence about active procrastination.

**Multiple Manuscripts, Multiple Methods**

In this dissertation, I conduct an inquiry into procrastination from several angles to better understand the nature of different forms and consider implications for practice. This work takes the form of a multiple manuscripts dissertation, wherein Chapters 2, 3, and 4 represent stand-alone manuscripts examining closely related topics. Chapters 1 and 5 provide a brief introduction and conclusion for the subject of interest and dissertation as a whole. What unites the three manuscripts in Chapters 2 through 4 is a focus on procrastination tendencies among undergraduate students and, in particular, the question of whether an active form of this behavior may be adaptive in terms of associations with motivation and academic outcomes.

Chapter 2 is a comprehensive literature review on passive and active procrastination, considering the definition of each construct and associations with other variables that seem to indicate that one form is educationally maladaptive while the other is educationally adaptive. In the review, I point to several areas of contradiction or unanswered questions where future research can further clarify the definition, measurement, and educational connections of active procrastination.

For a certain form of procrastination to be adaptive for learning is still “a novel idea for the area of procrastination research” (Bui, 2010, p. 207), suggesting a place for both examination through statistical analyses and exploration through open-ended forms
of inquiry. In my dissertation, I undertook both forms of investigation, due to the unique insights each form of research could provide.

The measures included in self-report questionnaires enable educational psychologists to investigate specific relations among various academic constructs (Hofer, 2004), to examine differences between groups (Pike, 2011), and to study individual differences (Bembenutty & Karabenick, 1998). Researchers often select self-report questionnaires to enhance theoretical understanding of motivation on the basis of its relations to other behaviors or perceptions (Boekaerts & Corno, 2005), as was the intent of the study in Chapter 3, a quantitative study using survey research. The study combines exam and course grades with self-reported responses to instruments measuring the two forms of procrastination, three motivational beliefs, and behavioral delay. The goal is to determine the extent to which passive procrastination resembles or differs from active procrastination—and more precisely, its underlying factors—by means of associations with other constructs.

Self-report questionnaires reveal important insights about the relations among variables but may lack full consideration of the environment and conditions under which a behavior occurs (Hadwin, Winne, Stockley, Nesbit, & Woszczyna, 2001). With qualitative approaches, researchers have the ability to uncover students’ personal, subjective, detail-rich perspectives (Jones, Torres, & Arminio, 2006). Chapter 4 is a qualitative study using a phenomenological methodology focused on uncovering the essence of active procrastination. Descriptions related to active procrastination emerged
from students’ own words as portrayed in study journals and interviews. I describe major themes regarding the essence of active procrastination, showing how the flipside of each positive component comprises an important part of the lived experience of active procrastination as a whole.

A major goal of the research undertaken in this dissertation is to inform conceptual understandings. An equally important goal is for these understandings to inform nuanced strategy development suggestions and interventions for students, as opposed to simply recommending or prohibiting procrastination. Together, the three manuscripts in this dissertation contribute to these complementary goals in research and practice.
Chapter 2: The Passive-Active Distinction: 
A Review of the Literature on Two Opposing Forms of Procrastination

Many college students describe themselves as working better under pressure. These students believe that procrastination does not have a negative impact on academic work and, moreover, that intentional delay provides benefits such as additional time to reflect on a task before undertaking it and increased productivity when the deadline approaches (Schraw et al., 2007). Such descriptions notably differ from the thrust of the scholarly literature, which deems procrastination a “quintessential self-regulatory failure” (Steel, 2007, p. 65). To reconcile these conflicting messages, scholars have defined and studied the potential for an adaptive form of procrastination to exist. This adaptive form has most recently been deemed active procrastination (Choi & Moran, 2009; Chu & Choi, 2005; Schraw et al., 2007). Several questions arise in relation to this conceptualization. To what extent do passive and active procrastination differ from one another in terms of the motivational characteristics associated with each? Do passive and active forms of procrastination relate to different outcomes? Does the existing literature contain either conflicting information or gaps that point to the need for additional research? The purpose of this literature review is to begin answering these questions.

Procrastination and the Basic Passive-Active Distinction
At its essence, procrastination refers to the delay of behavior. The Latin form of the word is *procrastinare* (Neenan, 2008), which can be broken down into components that translate to “forward, forth, or in favor of” and “of tomorrow” (Klein, 1971, as cited in Steel, 2007, p. 66). In his theoretical review of procrastination, Steel (2007) explained that most definitions of procrastination focus on the behavior’s irrationality; when one procrastinates, one delays action despite the anticipation of negative consequences. Steel argued that unflattering descriptions of procrastination have a historical precedent extending back more than two and a half millennia, such that “procrastination must be considered an almost archetypal human failing” (p. 67).

In recent years, some scholars (Choi & Moran, 2009; Chu & Choi, 2005; Corkin et al., 2011) have begun to differentiate among forms of procrastination by using a passive-active distinction. Although some variance in terminology exists, this body of research draws contrasts between passive (traditional, negative, maladaptive) procrastination and active (positive, adaptive, active delay) procrastination. One way to comprehend the basic passive-active distinction is to reflect upon the passive and active voice in language. The passive voice indicates that someone or something is *acted upon* by circumstances or another person or thing (Frischkorn, 1999). The passive voice often serves to remove or minimize the role of the agent, such as in the case of “mistakes were made.” In contrast, the active voice indicates that one *acts* (Frischkorn). Ownership and agency are more clear in the active voice than they are in the passive voice. This

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1 For consistency, the terms I will use in this review when contrasting the two forms of procrastination will be *passive procrastination* and *active procrastination.*
distinction is also seen in education in the general sense that a passive student allows external factors to dictate a situation, whereas an active student makes intentional decisions about his or her actions (Benware & Deci, 1984). Specifically in terms of procrastination, passive procrastination is the avoidance of action; it is procrastination “in the traditional sense” (Chu & Choi, 2005, p. 247), the type associated with poor motivation and performance. Active procrastination, on the other hand, describes a distinctly different type of procrastination, one that appears to involve the rational decision to delay action in anticipation of higher performance at some future time (Chu & Choi).

Chu and Choi (2005) conceived of active procrastination as a specific form of positive procrastination. According to this view, active procrastinators exhibit intentional and self-efficacious use of time, leading to adaptive personal and academic outcomes. Building on Chu and Choi’s initial work, Choi and Moran’s (2009) study made a major contribution to construct development by offering further definition of the positive features of active procrastination. The authors described active procrastination as “an observable behavioral characteristic that encompasses [four dimensions:] a person’s affective preference for time pressure, cognitive decision to procrastinate, behavioral capacity to meet deadlines, and ability to achieve satisfactory outcomes” (p. 197). Unlike passive procrastinators, who avoid tasks and then are unable to effectively manage their time as a deadline draws near, active procrastinators make an intentional decision to delay a study-related behavior and then are able to carry out the necessary tasks at a later
time. That is, “at the last moment, through the effective and efficient use of their time, they successfully complete the task, achieving a rewarding outcome” (p. 198).

**Differing Relations to Motivational and Psychological Constructs**

The distinctions above suggest that passive and active procrastination are not simply two names for the same thing. Supporting the passive-active distinction is a body of research that demonstrates how various constructs have notably different relations to passive and active procrastination. Differences are particularly apparent in terms of motivational and psychological constructs, and scholars often speak of active procrastination as adaptive—in contrast with passive procrastination—due to its associations with positive motivational and psychological aspects.

**Self-Efficacy and Procrastination**

According to Bandura’s (1991) classic definition, self-efficacy reflects individuals’ “judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (p. 391). As such, self-efficacy “is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses” (p. 391). In his text on social cognition, Bandura (1986) theorized that insufficient levels of self-efficacy may relate to low engagement in tasks. Since that time, researchers consistently have reported a negative relation between self-efficacy and passive procrastination. The co-occurrence of low self-efficacy seems so essential to the understanding of passive procrastination that it is seen as a way of validating its measurement. This tendency was seen in the work of Tuckman (1991),
who, as a primary means of establishing the concurrent validity of the Tuckman Procrastination Scale, highlighted the strong negative correlation to domain-general self-efficacy. In their study of personality correlates of passive procrastination, Ferrari, Parker, and Ware (1992) further established a negative correlation between general self-efficacy and procrastination, this time in terms of the frequency of procrastination and number of reasons for procrastination.

Particularly in the early work on procrastination, researchers focused on procrastination as a trait and consequently measured self-efficacy as a trait-like characteristic, which did not fully capture Bandura’s original intention regarding the specificity of self-efficacy (Pajares, 1996). Domain-specific studies of these constructs reflected what studies at the domain-general level showed, however. For instance, in terms of beliefs about the ability to successfully complete tasks in introductory history or psychology, Wolters (2003) reported a strong negative correlation between course-related academic self-efficacy and course-related passive procrastination.

In studies of active procrastination, on the other hand, a connection to high self-efficacy is common but not assured. Chu and Choi (2005), for instance, found that general self-efficacy had a significant negative correlation with passive procrastination but a significant positive correlation with active procrastination, a pattern replicated by Corkin and her colleagues (2011) and Cao (2012) in their examinations of the course-related self-efficacy of human development and educational psychology students, respectively. In terms of the course-related self-efficacy of Canadian students in a college
success course, however, Gendron (2011) found no significant relation to active procrastination, suggesting that students’ beliefs about their abilities in different courses may have different relations to their active procrastination tendencies.

Insofar as an overall tendency for self-efficacy to be a differentiating factor in passive and active procrastination, qualitative evidence lends support to the bulk of findings of self-report survey research. Through qualitative interviews and focus groups on the topic of procrastination’s positive and negative features, undergraduates who described themselves as having low self-efficacy for the use of study strategies tended to put less effort into their coursework and to experience a sense of guilt as a result (Schraw et al., 2007); this appears to be a portrait of the typical passive procrastinator. On the other hand, those undergraduates who viewed themselves as successful procrastinators tended to describe having high confidence in their abilities to do well (Schraw et al.). These students cited enhanced levels of productivity and confidence as a consequence of their procrastination, seeming to reflect the characteristics of active procrastinators.

Goal Orientations and Procrastination

“Students’ intentions or reasons for engaging, choosing, and persisting at different learning activities” (Meece, E. Anderman, & L. Anderman, 2007, p. 490), known as goal orientations, represent another key aspect of motivation that differs for passive and active procrastinators. Seeking to avoid putting forth effort (i.e., work-avoidance goal orientation) is a positive predictor of passive procrastination (Wolters, 2003), as is seeking to avoid a decrease in one’s knowledge and skills (i.e., mastery-avoidance goal
orientation; Corkin et al., 2011; Howell & Buro, 2009; Howell & Watson, 2007). Seeking to increase one’s knowledge and skills (i.e., mastery-approach goal orientation) is a negative predictor of not only passive procrastination (Howell & Buro, 2009; Howell & Watson, 2007) but also active procrastination (Corkin et al., 2011). In other words, neither passive nor active procrastinators have the goal of enhancing their knowledge. Although this finding might be expected of passive procrastination, it suggests that active procrastination is less than ideal in terms of motivation for learning (Corkin et al., 2011).

Active procrastination differs from passive procrastination in terms of other goals, however. Mastery-avoidance and performance-avoidance goal orientations are both negative predictors of active procrastination (Corkin et al., 2011). In other words, students who engage in active procrastination tend to have low avoidance tendencies; neither a concern about decrements in skill level nor a concern about demonstrating low ability (Pintrich, 2000) tends to be the motivation for active procrastinators. As avoidance goals are typically considered maladaptive for learning (Elliot, McGregor, & Gable, 1999; Hulleman, Schrager, Bodmann, & Harackiewicz, 2010), the negative association with active procrastination suggests some educational value.

**Other Psychological Variables and Procrastination**

Researchers have shown passive and active procrastination to be distinct in terms of their relations to various psychological constructs. Passive procrastination has associations with external locus of control (Brownlow & Reasinger, 2000; Trice & Milton, 1987), indicating a tendency not to take responsibility for outcomes and to blame
external circumstances. The passive form of procrastination also relates to a lack of a future time perspective (Ferrari & Diaz-Morales, 2007), providing evidence that this construct involves a lack of planning, in contrast with the sense that active procrastinators intentionally decide to delay (Choi & Moran, 2009). Further, passive procrastination relates to negative emotional states (Flett, Blankstein, & Martin, 1995; Stoeber & Joormann, 2001), evidence of its association with forms of affect that may involve low motivation and unhealthy emotional outlooks. Active procrastination, on the other hand, has positive correlations with factors such as time control, ability to multitask, and emotional stability (Choi & Moran, 2009). When compared side by side, levels of avoidance coping, stress, and depression have significant relations, though in opposite directions, to forms of procrastination, with passive procrastinators reporting high levels and active procrastinators reporting low levels of these constructs (Chu & Choi, 2005). Together, these results support active procrastination as a psychologically adaptive behavior, in contrast with passive procrastination.

**Differences in Study Strategies and Grades**

Because procrastination involves how students relate to their academics, both how they study (e.g., cramming, use of learning strategies) and the results of their studying (e.g., amount of learning that occurs, grades) are important aspects. There is evidence that the two forms of procrastination relate in different manners to study strategies and achievement, although the overall picture for active procrastination is not entirely positive.
Procrastination and Cramming

When it comes to how procrastinators approach learning, cramming is a common strategy. Both the amount of material and timing of the behavior are essential to the definition of cramming, defined as studying a large amount of material during a period of time close to a deadline (R. Sommer, 1968). Overall, college students’ self-reported frequency of cramming has a negative relation to their self-reported satisfaction with their study habits (Brinthaupt & Shin, 2001), appearing to indicate that students do not view this approach as a desirable academic behavior. Further, Ferrari (2001) found that chronic procrastinators (conceptualized in the passive sense) had lower speed and accuracy under time constraints as compared with their speed and accuracy when not under time constraints. This finding suggests that procrastinators perform worse, rather than better, under pressure. An important caveat, however, is that cramming is a study method that may be used by either passive or active procrastinators, with the former typically cramming out of necessity (i.e., having avoided an activity until the last possible moment) and the latter typically doing so by choice.

Scholars who conceive of procrastination in the active sense argue that cramming—a particular form of working under pressure—may benefit at least some students. The passive-active difference emerges notably in terms of the concept of flow: the phenomenon of having high levels of concentration and productivity under ideal circumstances (Csikszentmihalyi, 1990, as cited in Brinthaupt & Shin, 2011). Flow involves becoming immersed in the learning activity, feeling intently focused, losing
awareness of the passage of time, and having a sense of enjoyment (Seo, 2011). Undergraduates who passively procrastinate tend to experience low levels of flow (Brinthaupt & Shin, 2001; Mortensen & Miller, 2012). In contrast, those who actively procrastinate experience high levels of flow (Mortensen & Miller).

An aspect of the cramming experience that may be seen as desirable by active procrastinators is the potential to make a task more appealing. R. Sommer (1968) was one of the first to document that students are more likely to study at the last minute when they perceive the task to be either too difficult or too easy. The distinction identified by R. Sommer allows for the possibility that some students procrastinate out of avoidance of difficulty (i.e., the traditional passive definition), whereas others procrastinate because they would prefer a challenge, such as working close to a deadline, not offered by the task itself. As demonstrated in Schraw and his colleagues’ (2007) qualitative study of procrastination, students who indicated they delayed boring tasks also explained that reducing the amount of time available for completion made tasks appear more interesting. One possible explanation for the relation of perceived difficulty to active procrastination is that “modulating the tension between attraction to the material (or to the challenge of fulfilling expectations) and dismissal of it … can be exhilarating” (W. G. Sommer, 1990 p. 6). As such, it can make sense that working under pressure—often achieved by the behavior of cramming—would be a desired state for active procrastinators.
Procrastination and Learning Strategies

When it comes to the question of procrastination and its relation to learning, what matters is not simply the amount of time but also what procrastinators do during this time. Two major categories of learning strategies are cognitive strategies and metacognitive strategies. Cognitive strategies specifically refer to students’ thinking processes as they seek to learn course content. According to Karabenick and Collin-Eaglin (1995), “cognitive strategies are the ways students process (that is, attend to, encode, store, and recall) information required by instructional tasks” (p. 76). In general, cognitive strategies fall into two subcategories, those at the superficial level and those at a deeper level (Zusho et al., 2003). These strategies differ in their degree of long-term retention and amount of active engagement required of the learner. Rehearsal strategies and elaboration strategies are two common forms that represent surface-level and deep-processing strategies, respectively. Rehearsal strategies, as described by Pintrich (2002), rely on the repetition of information—“generally not the most effective strategy” (p. 220). On the other hand, elaboration involves adding something to the information to make it one’s own, such as paraphrasing or creating mnemonic devices. As compared with rehearsal strategies, elaboration strategies relate to greater comprehension and more effective learning (Pintrich, 2002). Metacognitive strategies refer to what learners do to set and monitor goals for comprehension and are an important component for the self-regulation of learning (Pintrich & Johnson, 1990). In terms of passive and active
procrastination, there are differences—yet also some notable similarities—in terms of relations to cognitive and metacognitive strategies.

In general, passive procrastination relates to low use of learning strategies. Using a measure that combined several different types of cognitive strategies, scholars have demonstrated negative relations between passive procrastination and the overall use of cognitive strategies (Corkin et al., 2011; Howell & Watson, 2007; Wolters, 2003). Howell and Watson (2007) further indicated that the overall use of cognitive strategies was a significant negative predictor of passive procrastination as reflected in both the Procrastination Assessment Scale-Students (PASS; Solomon & Rothblum, 1988), which measures students’ self-reported frequency and severity of the procrastination in several specific academic areas, and the Tuckman Procrastination Scale (TPS; Tuckman, 1991), which measures students’ overall academic procrastination traits. In addition, passive procrastination had a strong negative association with students’ confidence in their abilities to plan and monitor their use of effective learning strategies (Klassen, Krawchuk, & Rajani, 2008) as well as their reported use of metacognitive strategies (Corkin et al., 2011; Howell & Watson, 2007; Wolters, 2003). As a whole, these results indicate that the more students engage in passive procrastination, the less they use any form of cognitive or metacognitive strategy. What the results do not indicate is the extent to which passive procrastinators use certain types of cognitive strategies (i.e., deep or shallow) more or less frequently than they do others.
In their review of the literature on personality, affect, and education, Matthews, Zeidner, and Roberts (2006) concluded that the overall relation between procrastination and learning was negative, stating that “procrastination, including the failure to study or complete homework, leads to failure acquiring requisite knowledge” (p. 175). A key distinction in the conception of active procrastination, however, is that the students who engage in this behavior describe themselves as successfully completing academic tasks. Per the definition of the construct, these students prefer to work under pressure and benefit academically from doing so (Chu & Choi, 2005). According to this perspective, active procrastinators make the decision to delay tasks and then successfully complete them at the appointed time. This definition, however, does not specifically address learning itself and leaves open questions of how effectively students may comprehend or remember what they study.

The relation between cognitive strategies and procrastination in Corkin and her colleagues’ (2011) study suggests that active procrastination may not be beneficial for the quality of learning; although active procrastination had a strong positive correlation with grades, it had a moderately strong negative correlation with both cognitive strategies and metacognitive strategies. The authors surmised that the finding limited “the extent that active delay can be considered an adaptive approach to learning” (p. 605). For students enrolled in a college success course, Gendron (2011) found no support for the hypothesized positive relation between active procrastination and a combined measure of cognitive and metacognitive strategy use. She reflected, “a student making a strategic
choice to procrastinate should also report strategic behaviour in other aspects of their learning” (p. 46). The fact that these students did not report high use of these types of strategies challenged the assumption that active procrastinators engage in adaptive academic behaviors.

As was the case with passive procrastination, these scholars used undifferentiated measures of strategy use, one combining deep and surface cognitive strategies, and the other combining these cognitive strategies with metacognitive strategies. Not all learning strategies are equally effective for the same academic goals (Pintrich, Smith, Garcia, & McKeachie, 1993). It will be important for future studies to examine the relations of passive and active procrastination to different cognitive strategies (e.g., rehearsal/surface, elaboration/deep), as this distinction would provide further insight into the specific study behaviors of different types of procrastinators.

It seems likely that active procrastinators are able to put forth enough effort to demonstrate knowledge in time for an assessment but use methods that do not permit meaningful, long-term learning. W. Sommer (1990) speculated that students who intentionally procrastinate tend to be more concerned with “acing the system” than with “acquiring pure knowledge” (p. 7). Viewed from another angle, Schraw and his colleagues’ (2007) qualitative study suggested that procrastinators—even those who described the behavior as an effective approach to learning—had to work to reframe their actions in a positive light in the sense that “most participants ‘tricked themselves’ into believing that procrastination ‘is the best way to get the job done’” (p. 20). A core
element of active procrastination is that the students who engage in this behavior describe themselves as successfully completing academic tasks; it seems unlikely, though, that their studying is as effective as it could be.

**Procrastination and Grades**

One reason procrastination matters is that it relates to academic performance (Rotenstein, Davis, & Tatum, 2009). When investigating the adaptive and maladaptive features of procrastination, it is important to consider grades as an outcome. Grades provide a quantifiable measure of a students’ performance, whether on an assignment, in a course, or in a series of courses, as in the case of GPAs. Although the ways in which different institutions and instructors assign grades are not identical, grades are considered to be a fairly objective means of measuring students’ academic achievement.

By and large, the connection between grades and passive procrastination is negative. In a study conducted with students from a university in the United States, passive procrastination negatively correlated with grades on a term paper and, to a greater extent, two exams (Tice & Baumeister, 1997). The greater magnitude of difference in exam grade suggests that procrastination on exams, and how students prepare for exams when they do or do not procrastinate, may be of particular importance. Procrastination can relate to students’ overall grade in a course, as well. For instance, Corkin and her colleagues (2011) reported a negative correlation between passive procrastination and grade in a human development course. More broadly, among students from three Canadian universities, passive procrastinators had significantly lower GPAs than either
non-procrastinators or active procrastinators (Chu & Choi, 2005). In a study of business majors at a Canadian university, there was a negative correlation between passive procrastination and both GPA and self-reported performance relative to other students (Choi & Moran, 2009).

These findings were consistent with those reported in Steel’s (2007) meta-analysis (K=41), in which the correlation between passive procrastination and grades, as a category including various performance measures, was -.19. Across multiple studies, specific performance measures exhibiting a negative correlation with passive procrastination were cumulative GPA, course grade, final exam grade, and assignment grades; the difference in grades existed at every level, from grades on single assignments to grades that were averaged across all of students’ courses. Thus, in examining the overall credibility interval for all measures of grades, Steel remarked, “procrastination is usually harmful, sometimes harmless, but never helpful” (p. 80). These consistent findings lend credence to the typical assumption that passive procrastination is a maladaptive behavior when it comes to educational outcomes.

Conceptually, active procrastinators choose to procrastinate in order to enhance their performance, and the relation to grades tends to be positive or at least neutral. In a study focused on students who “procrastinated and were successful at doing so” (Schraw et al., 2007, p. 23), about four-fifths of the college students interviewed did not believe that any connection existed between procrastination and grades. The remaining fifth of the interviewed students indicated that procrastination seemed to have a positive effect on
their grades. Noting the discrepancy between students’ reports and previous research, Schraw and his colleagues commented on the necessity of future research on the relation between procrastination and grades.

Quantitative studies have examined this relation and have consistently reported a positive association between active procrastination and grades (Chu & Choi, 2005; Corkin et al., 2011; Gendron, 2011). It is important to emphasize that only correlation has been shown—not causation. Although these two aspects tend to occur together, there is no indication of whether procrastination is causing high grades, whether students with high grades procrastinate because they feel confident in being able to do well in their courses regardless, or whether a third factor is common to students who both procrastinate actively and have high grades.

In addition to correlation-based research showing a link between active procrastination and high grades, Chu and Choi (2005) compared GPAs received by students categorized as active procrastinators, passive procrastinators, or non-procrastinators. Active procrastinators had, on average, higher GPAs than did passive procrastinators; this finding could be interpreted as evidence of the relative academic benefits of active procrastination. It is important to note, however, that non-procrastinators had the highest GPAs. Even though active procrastinators did not have the lowest grades, the academic performance of active procrastinators might improve were they not to work under pressure. Active procrastinators may not, in fact, be performing
their best under pressure. Were they to begin working earlier, they might receive even higher grades, similar to those achieved by non-procrastinators.

At the course-level, scholars also have examined grades as an outcome measure. Corkin et al. (2011) reported that active procrastination was a significant positive predictor of the grade in a human development course but did not control for previous achievement. It remains unclear whether students received high grades because of—or in spite of—their active procrastination. It is not clear what might happen were the analyses to consider the role of prior achievement, an important component in predicting future achievement (Kumar & Jagacinski, 2006; Pastor, Barron, Miller, & Davis, 2007). It might be possible that, once quantitative models controlled for prior achievement, active procrastination would no longer predict high grades.

As a final note on academic outcomes, an interesting distinction between subjective and objective measures of academic performance emerged in Choi and Moran’s (2009) study of business majors. Active procrastination had a positive correlation with students’ ratings of their academic performance relative to other students in their class—but no significant relation to performance as measured by GPA. This discrepancy suggests that although active procrastinators believe that their behaviors are benefitting them, their beliefs may not map onto actual performance. Future research should continue to investigate the link between active procrastination and achievement.
Measurement of Passive and Active Procrastination

Passive and active procrastination are measured in ways that further attest to their distinctness. The following section overviews the Tuckman Procrastination Scale as a means of measuring passive procrastination and the Active Procrastination Scale as a means of measuring active procrastination.

Attributes of the Tuckman Procrastination Scale

Scales that measure passive procrastination pertain to the general tendency to avoid academic work by means of delaying it. The Tuckman Procrastination Scale (TPS; Tuckman, 1991) is a commonly used instrument that reflects this form of procrastination. Tuckman developed his scale based on the responses provided by two sets of educational psychology students at a university in the United States. The TPS is a measurement of procrastination perceived in the sense of being “the lack or absence of self-regulated performance” characteristic of those who “undermine their own efforts to deal effectively with situations that tax or challenge their capabilities” (p. 474). Tuckman’s development of items reflected the perspective that procrastination involves low motivation for school and is a likely source of the difficulties students face in college. Through several stages of item development, pilot testing, and factor analysis, Tuckman produced the popular short form (i.e., 16-item) version of the scale, narrowing the original pool from 72 items. The scale measures one factor: “the general description of oneself as a procrastinator or time waster and delayer, along with the tendency to avoid unpleasant tasks” (p. 475).
Psychometric characteristics of the TPS reflect acceptable reliability and validity. Studies that make use of the scale have consistently reported alpha coefficients in line with the high reliability ($\alpha = .86$) reported in Tuckman’s initial study (e.g., Bui, 2010; Klibert, Langhinrichsen-Rohling, & Saito, 2005). Tuckman also demonstrated that the tendency to make excuses was predictive of high scores on the TPS (2005) and that the TPS possessed concurrent validity by means of an inverse correlation with participation in a weekly extra-credit homework system (1991) conceptualized as “a reflection of inherent procrastination tendencies” (Tuckman & Sexton, 1989, 1990, as cited in Tuckman, 1991, p. 51).

**Attributes of the Active Procrastination Scale**

Given that scholars and educators may make judgments and recommendations related to active procrastination based on research, it is important to consider the generalizability, reliability, and validity of the studies and instruments used to establish current notions of active procrastination. A number of studies on active procrastination have pointed to Chu and Choi’s (2005) study as foundational. To date, the Social Sciences Citation Index lists 41 articles as having cited it. Although the study raised important questions about educators’ and researchers’ assumptions that procrastination is necessarily maladaptive, it also contained important limitations related to its sample of students and measurement of active procrastination. Comprised primarily of female (72.2%) and Asian (53.7%) students, the sample was not representative of most college students in the United States (US), even though most studies that use the scale draw on
and make inferences regarding US samples. Another difficulty with Chu and Choi’s study was that their Active Procrastination Scale (APS) had only fair reliability (α = .67), suggesting that the scale did not consistently measure just one construct. Further, several expected relationships did not materialize. For instance, active procrastinators reported a very low amount of structure in their time use. Ultimately, Choi and Moran (2009) deemed that the researchers “failed to confirm the hypothesized … structure of active procrastination and to provide a valid and reliable measurement tool for further investigation of the construct” (pp. 196-197).

The revised APS was an improved measure of active procrastination. Choi and Moran (2009) refined Chu and Choi’s (2005) original measure by increasing the number of items, engaging in pilot testing, and conducting factor analysis. Using Exploratory Factor Analysis, they systematically narrowed down a pool of 40 items to 16 items. These items underwent Confirmatory Factor Analysis and achieved satisfactory fit as a four-factor model. The result was a more reliable (α = .80) method for measuring active procrastination than previously available. Choi and Moran’s (2009) scale also appears to be a valid measurement in terms of criterion-related validity, exhibiting positive correlations with time control, polychronicity (i.e., the ability to multitask), emotional stability, and extraversion. Choi and Moran argued that the revised APS also had incremental validity, due to its ability to predict life satisfaction and self-reported performance above and beyond the previously noted variables. What the APS did not demonstrate, however, was the ability to predict these outcomes above and beyond the
variance accounted for by previous academic performance, for the researchers did not control for this aspect. Also of note, both the original and revised APS, like most other non-behavioral measures of procrastination, measure procrastination at the domain-general level. Thus, findings can only be said to relate to students’ overall tendencies. This broad focus is not necessarily a weakness, as there is ample evidence to support that procrastination reflects trait-level aspects of personality (Ferrari, Johnson, & McCown, 1995; Lay, 1995; Lee, Kelly, & Edwards, 2006; Schouwenburg & Lay, 1995; Schouwenburg, 1995). Still, the domain-generality of measurement must be kept in mind in terms of what findings have been uncovered so far and which have yet to be explored.

Relation between Passive and Active Procrastination Scales

It is important to understand whether passive procrastination and active procrastination overlap or, rather, are orthogonal. Even moderate correlation between scales measuring passive and active procrastination might suggest that the tendencies share certain features or that students could engage in some degree of both types of behavior at a given time. Thus far, most research indicates there is no substantial relation between passive and active procrastination. Overlap between self-report scales measuring the two forms of procrastination at the domain-general level has been low, with initial studies reporting non-significant ($r = .03$, Chu & Choi, 2005; $r = .07$, Choi & Moran, 2009) relations. Such findings suggest that the constructs are indeed distinct from one another can be considered orthogonal (Streiner, 2003). In practice, this would suggest that an individual might potentially have both tendencies but that the likelihood of being
one type of procrastinator has little to do with the likelihood of procrastinating in another manner. Not all evidence supports that the two forms of procrastination are strictly orthogonal; some evidence suggests that the presence of one procrastination tendency relates to the absence of the other. Corkin and her colleagues (2011) found a slight negative correlation ($r = -0.15$), with reported levels of one form of the behavior falling slightly as reported levels of the other rose. The degree of difference appears to be magnified when examined within a specific course, rather than as an overall tendency. Hensley and Burgoon’s (2013) investigation of passive and active procrastination at the domain-specific level (i.e., with the addition of “in this course…”) indicated that the constructs were strongly and negative correlated with one another ($r = -0.40$) for undergraduate anatomy students, providing evidence that, at least in certain circumstances, students who engage in one form of the behavior are unlikely to engage in the other form.

**Limits on Viewing Procrastination as Adaptive**

The previously addressed distinctions in measurement and relations to other constructs support the idea that a certain form of procrastination may be “adaptive for school rhythms and expectations” (p. 5), as W. Sommer (1990) proposed in a theoretical piece addressing procrastination from a mental health perspective. On the other hand, there may be limits to the learning that occurs when “adept students” (p. 6) engage in “calculated procrastination” (p. 6, emphasis in original), that is, a deliberate choice based upon the careful weighing of course requirements and the minimum amount of time
necessary to complete them satisfactorily. This minimization of effort for otherwise high-ability students may explain the positive associations with grades despite the low use of cognitive and metacognitive strategies. Two perspectives suggest further limits on the extent to which active procrastination can be viewed as an adaptive form of delay: first, that viewing procrastination as beneficial may be no more than a rationalization and, second, that the construct measured by active procrastination may involve little if any actual procrastination.

**Working Better under Pressure: A Rationalization?**

Advocates of active procrastination indicate that working under pressure is an accurate perception that the scholarly literature has traditionally failed to acknowledge. A competing theme in the literature argues that students’ self-perceptions of working well under pressure may be misleading. According to some scholars (Neenan, 2008; Simpson & Pychyl, 2009; Tuckman, 2002, 2005), procrastinators rely on rationalizations to explain their decisions to put off schoolwork, making procrastination seem like a viable option. In this view, rationalizations are excuses, or rational lies, that seem reasonable on the surface but ultimately cause students to become accustomed to procrastinating, believing such behavior is justified and in their best interests. Tuckman (2005) indicated that the most common rationalization was the perception of working better under pressure, whereas the reality was that many students worked *only* under pressure as a force of habit. If these scholars are correct, then active procrastination boils down to a
convincing rationalization, which is likely to be an impediment to optimal performance. These competing explanations warrant additional investigation through future research.

**Is Active Procrastination a Behavior?**

Despite the definition of active procrastination as a behavioral characteristic and the necessary assumption that the scale reflects behavioral tendencies, a notable limitation of existing studies is a lack of construct validation by means of specific academic behaviors, even self-reported ones. A question that remains unanswered is whether active procrastination as currently conceptualized involves any degree of behavioral delay. Only one known study has examined the amount to which active procrastinators delayed academic activities, and the results did not support the presence of behavioral delay. In their initial study of anatomy students, Hensley and Burgoon (Hensley & Burgoon, 2013) found that active procrastination at both the domain-general and domain-specific level had no significant relation to students’ delay of assignments or exam preparation. Although the results await replication, they suggest caution is necessary when interpreting the results of studies on active procrastination.

**Conclusion and Future Directions**

Procrastination traditionally has been acknowledged as a maladaptive behavior; in recent years, however, researchers have described and investigated a potentially adaptive form of procrastination. Overall, passive and active procrastination differ when it comes to self-efficacy, avoidance goals, various psychological factors, the purpose of cramming, and—at least on the surface—grades. On the other hand, they appear to be similar in
terms of negative relations to mastery-approach goals, cognitive strategies, and metacognitive strategies, indicating that passive and active procrastination share some less than ideal characteristics when it comes to motivation and learning.

Although research evidence on the passive-active distinction points to two different tendencies, additional research in a number of areas would provide further clarification. First, a notable limitation in some studies that associate active procrastination with academic achievement is that they have not controlled for prior achievement; without knowing the level of students’ past achievement, it is difficult to claim that active procrastination itself is a major factor related to positive academic performance. Moreover, the negative connections to cognitive and metacognitive strategies seem to contradict the conceptualization of active procrastination as adaptive for learning. Schraw and his colleagues’ (2007) grounded theory study is the most extensive qualitative study to address the idea of adaptive procrastination to date, and additional qualitative studies would help to disentangle some of the complexities of this phenomenon. Second, most studies of passive and active procrastination rely on instruments that measure the tendencies at a domain-general level. As the literature on motivation in educational settings emphasizes being able to understand motivation in context (see Perry, Turner, & Meyer, 1996), future research must give additional consideration to how the forms of procrastination in a given course relate to factors such as students’ perceptions of the course. A third question relates to the measurement of active procrastination as being indicative of actual procrastination. As of yet, no known
study of active procrastination has included a behavioral measure that validates the scale, and it is possible that some of the positive components contained in the multidimensional scale may relate to the absence rather than the presence of procrastination.

In sum, future research must continue to probe the motivational and cognitive factors at work when students procrastinate; this work should address not only the traditional form of procrastination but also newer models that propose procrastination as an adaptive behavior. A possible upshot of active procrastination’s popularity is that educators may come to agree that “burdening students with needless guilt and anxiety about their ‘lax’ study habits appears to be unjustified” (Vacha & McBride, 1993, p. 10). If recommendations for practice are to imply that procrastination may benefit some students, however, researchers must continue to examine procrastination in context, ensure that the measurement of active procrastination is consistent with behavioral delay, investigate alternative explanations for active procrastination’s positive relations to grades, and aim to make understandings of active procrastination as full and nuanced as possible.
Chapter 3: Reconsidering Active and Passive Procrastination: Relations to Beliefs and Achievement in College Anatomy

At the heart of educational psychology is the premise that thoughts and perceptions play an essential role in behaviors. In this study, the behavior of interest is academic procrastination—the delay of activities and actions associated with academic tasks—and the thoughts and perceptions of interest concern motivation for learning. Although procrastination tends to be viewed as problematic, the trend of investigating adaptive components of procrastination (e.g., Schraw et al., 2007) suggests not all procrastination is created equal. Specifically, the emerging construct of active—as opposed to passive—procrastination tends to be defined by and associated with academically productive attributes (e.g., Choi & Moran, 2009). Such an approach, however, is not without controversy (cf. Pychyl, 2009), and what scholars know of the construct and its components continues to develop (e.g., Mortensen & Miller, 2012). The present study represents efforts to further understand how passive and active forms of procrastination resemble or are distinct from one another when it comes to both motivation for learning and learning itself, operationalized as academic achievement.

Procrastination has relations to—but is not solely determined by—underlying traits. Just as one’s behaviors and self-perceptions may vary based upon the domain,
procrastination within an educational setting overall is not one and the same as academic procrastination in a specific course (Hensley & Burgoon, 2013). When it comes to the motivation behind delaying an academic task, salient features of both oneself as a learner and the task itself likely come into play (McGee, Del Vento, & Bavelas, 1997). Following this perspective, I examined procrastination tendencies in a specific course—undergraduate human anatomy—through the lens of motivational beliefs. Specifically, I focused on how beliefs about the speed of knowledge acquisition, ability to successfully learn anatomy, and value of learning anatomy related to procrastination and anatomy grades when taking into account ability.

**Passive and Active Procrastination**

Procrastination traditionally has been viewed as an unproductive, self-defeating behavior with links to passivity, self-handicapping, low engagement, a lack of self-regulation, and poor academic performance (Harrington, 2005; Rice, Richardson, & Clark, 2012; Schouwenburg & Groenewoud, 2001; Tuckman, 1990). In stark contrast, conceptions of active procrastination suggest that procrastination, when done in a certain manner, may be motivationally and academically productive (Choi & Moran, 2009; Chu & Choi, 2005). As defined by Choi and Moran, there are four components of active procrastination. First, outcome satisfaction indicates that students are pleased with their performance or results. Second, preference for pressure indicates that students like to work quickly under deadlines. Third, intentional decision indicates that students deliberately postpone tasks. Fourth, ability to meet deadlines indicates that students are
able to complete their activities on time. Whereas passive procrastinators avoid tasks and are unable to effectively manage their time as deadlines draw near, active procrastinators intentionally delay academic tasks and successfully complete them at a later date (Choi & Moran, 2009).

Overall, passive and active procrastination appear to be separate constructs that are either unrelated or inversely related to one another. Scholars have reported both non-significant (Choi & Moran, 2009; Chu & Choi, 2005) and negative relations (Corkin et al., 2011; Hensley & Burgoon, 2013) between scales measuring passive and active procrastination. Researchers regularly report coefficient alpha’s of .90 or greater when measuring passive procrastination, pointing to the existence of a single, monolithic factor (Bui, 2010; Sagar & Stoeber, 2009; Stoeber & Joormann, 2001; Tuckman, 2005). The measurement of active procrastination, however, is not quite so unidimensional. In their validation study of the Active Procrastination Scale, Choi and Moran (2009) reported a moderately high internal reliability ($\alpha = .80$) of the scale as a whole and found that “the suprafactor of active procrastination was indicated by its four dimensions” (p. 204), discussed above. Given the existence of this unifying construct, the majority of research on active procrastination has examined the composite measure of active procrastination as a single construct, examining relations of various other academic and motivational constructs to the scale as a whole (e.g., Cao, 2012; Choi & Moran, 2009; Chu & Choi, 2005; Corkin et al., 2011; Gendron, 2011). A second, though less common, approach has been to examine the subscales separately as correlates of life satisfaction and grades.
(Choi & Moran, 2009) and predictors of self-regulation (Wolters, Hussain, & Young, 2013). When examining the subscales separately, Hensley and Burgoon (2013) found that only the intentional delay subscale had the expected associations with other components indicating procrastination; given the small sample size, however, repetition of these results is necessary before drawing conclusions about the level of academic delay involved in active procrastination.

This second approach, that is, examining the component parts of active procrastination, may reveal nuances in how these aspects relate to other variables thought to be important to learning and motivation. In line with this approach, the intent of the present study is to disentangle components of active procrastination in order to examine their relations to motivation and achievement; however, as little research examines the individual components of active procrastination, in my review of the literature I primarily speak of patterns in passive procrastination and active procrastination as composites.

**Gender in Relation to Procrastination**

It appears that, overall, procrastination tendencies differ by gender, with Van Eerde (2003) and Steel (2007) reporting in their metaanalyses that males procrastinate slightly more than females in both academic and non-academic settings. In specific studies, however, there is greater variance in when and where the distinctions lie. Some scholars have reported no significant gender differences in a range of settings: behavioral procrastination in a lab (Ferrari & Tice, 2000), general self-reported procrastination tendencies among college students in the Midwestern United States (Ferrari, 2001), and
passive procrastination among Nigerian and Canadian college students (Akinsola & Tella, 2007; Howell & Watson, 2007). Additionally, gender differences did not emerge in any component of, nor the composite measure of, active procrastination measured among Canadian college students (Choi & Moran, 2009). Other scholars, however, have found gender differences in reasons for procrastination (e.g., more female college students than male students cite laziness as a reason for procrastination; Ozer, Demir, & Ferrari, 2009) and in the tendency to exhibit behaviors antithetical to procrastination (e.g., fewer male than female college students are likely to delay immediate gratification; Bembenutty, 2009; more female than male college students plan when and how to study in advance, Vanhooft, Born, Taris, Vanderflier, & Blonk, 2005). Such findings suggest that gender differences might exist in particular forms of procrastination.

**Achievement and Ability in Relation to Procrastination**

It is important to account for some measure of prior achievement or ability when examining future or concurrent achievement. Prior research has established a strong negative association between passive procrastination and academic achievement (Choi & Moran, 2009; Chu & Choi, 2005; Corkin et al., 2011; Fritzsche, Rapp Young, & Hickson, 2003; Strunk & Steele, 2011; Tice & Baumeister, 1997). When speaking of the perceived impact of active procrastination on grades, college students have described the intentional delay of academic tasks as having either no effect or a positive effect on grades (Schraw et al., 2007). To date, correlational research on active procrastination and its relation to grades suggests these perceptions may be accurate (Chu & Choi, 2005; Corkin et al.,
2011; Gendron, 2011). Choi and Moran (2009), however, reported a more nuanced type of relation. In their study, there was a significant positive correlation between business majors’ active procrastination and perceived academic performance relative to other students’ performance, but there was no significant correlation between active procrastination and actual GPA.

Prior research suggests that active procrastinators attain, or at least believe they attain, high levels of academic achievement. It is notable, however, that no known study has controlled for the contributions of ability or prior achievement in the prediction of current achievement. A pressing question when considering active procrastination is whether ability plays a role in having confidence and ultimate success in attaining high academic outcomes. Ability seems implicit in certain conceptualizations of procrastination in that those students who perceive themselves as benefitting from procrastination appear to be capable and confident students (Schraw et al., 2007), yet no known study quantifies this relation. Thus, it remains unclear how ability plays a role in both the components of active procrastination and, further, in active procrastinators’ academic outcomes.

**Motivational Beliefs in Relation to Procrastination**

Students’ beliefs about learning comprise an important aspect of their motivation to learn. The beliefs at the center of this study concern the amount of time learning “should” take, the ability to learn, and the value of learning. On the whole, these beliefs have been associated with adaptive or maladaptive patterns of learning—adaptive in the
sense that their presence is associated with positive motivation for learning and learning itself and maladaptive in the sense that their absence is associated with negative or nonexistent aspects of these educationally desirable outcomes (Paulsen & Feldman, 2007; Theall & Franklin, 1999; Wolters, Yu, & Pintrich, 1996). These beliefs likely hold importance for procrastination, in particular, due to their relations to effort and persistence (Eccles, 1983; Schommer, 1994; Wolters & Rosenthal, 2000).

Beliefs about the Speed of Knowledge Acquisition

In a basic sense, academic procrastination involves the delay of academic tasks, those tasks related to knowledge and knowing. Thus, beliefs about knowledge and knowing—epistemological beliefs (Palmer & Marra, 2004)—may play a role in procrastination. Scholars examining the linkages between epistemological beliefs, motivation, and learning strategies have posited that the connections among such aspects are salient because epistemological beliefs are a “component of the cognitive and affective conditions of a task…[that] influence[s] the standards students set when goals are produced” (Muis, 2007, pp. 179–180). These standards are likely to involve choices related to the specific types of cognitive and metacognitive strategies students select, as has been examined previously (e.g., Paulsen & Feldman, 2007), but they might also involve choices about how much time for learning is needed and how this time should be structured. In other words, it is probable that students’ beliefs about knowledge and knowing will pertain to how they interpret the requirements of academic tasks and create
standards for the type of time management necessary to reach their learning goals, as made evident by engagement in or abstention from a given form of procrastination.

A particular form of epistemological belief that is likely to be relevant to procrastination is the belief about the speed of knowledge acquisition (Wood & Kardash, 2002), also referred to as the belief in quick learning (Schommer, 1990). This belief reflects expectations regarding whether the requirement of time and effort is, on the one hand, a reflection that something cannot be learned or, on the other hand, a natural attribute of the process of learning. As epistemological beliefs develop, they are thought to become more complex or sophisticated (Nist & Holschuh, 2005). A cognitively simple form of the belief about the speed of knowledge acquisition is that learning will either occur quickly or will not occur at all. A cognitively complex form of the belief is that acquiring knowledge occurs gradually; just because learning takes time does not mean it will not take place.

The speed aspect of students’ epistemological beliefs holds importance for learning outcomes and behaviors. A belief in speedy as opposed to gradual knowledge acquisition has been linked to low performance on a reading comprehension exam and overestimation of how well one would perform on it (Schommer, 1990), as well as low grades overall (Schommer, 1993). Scholars also have reported that believing knowledge to be acquired gradually predicts low anxiety about academics, frequent use of test preparation strategies, self-reported motivation for academics (Schommer-Aikins & Easter, 2008), and high levels of reading comprehension (Schommer-Aikins & Easter,
One’s belief about the speed of knowledge acquisition has also been linked to differences in learning strategies (Cano & Cardelle-Elawar, 2008). In line with the numerous connections to educational beliefs and behaviors, it is feasible that students’ beliefs about the speed of knowledge acquisition may also have ties to certain forms of procrastination.

**Self-Efficacy Beliefs**

As defined by Bandura (1997), self-efficacy reflects how individuals judge their abilities to successfully accomplish specific tasks. Self-efficacy can be related to but differs from ability. Rather than skill level per se, the key factor in this self-perception is “what one can do with whatever skills one possesses” (p. 391). Previous research illustrates a consistent distinction: low self-efficacy accompanies passive procrastination (Ferrari et al., 1992; Tuckman, 1991; Wolters, 2003), whereas high self-efficacy accompanies active procrastination (Cao, 2012; Chu & Choi, 2005; Corkin et al., 2011). Because the research on active procrastination is still developing, however, nuances of the behavior in relation to beliefs about one’s capabilities have not yet been fully explored.

An underlying reason for self-efficacy’s theoretical link to passive procrastination is simply this: when individuals have low self-efficacy for tasks, they are not likely to engage in them (Bandura, 1986). Passive procrastinators do not tend to engage in studying because they doubt their ability to perform well. Due to the difficulty of material or perceived likelihood of failure, there may be a great deal of subjective discomfort in
studying, which students may seek to avoid by means of procrastinating (Schouwenburg, 1992). When students have high academic confidence, scholars have proposed the opposite outcome: “students with low self-efficacy for learning may avoid tasks, whereas those who feel efficacious should participate more eagerly” (Schunk & Zimmerman, 2006, p. 356). This statement may describe some students’ passive procrastination and others’ non-procrastination, but it does not seem to account for the link between active procrastination and high self-efficacy, at least if one conceives of engagement in the typical manner. Perhaps the form of engagement these students choose is studying under time constraints; the question is, why? If it is the case that “people select those activities for which they feel most efficacious (or for which they have the highest expectations for success)” (Eccles, 2009, p. 81), then it may be possible that students who procrastinate actively feel most efficacious when it comes to working under pressure. As a possible explanation for the appeal of this behavior, it may be illuminative to see how self-efficacy and the components of active procrastination relate when accounting for other academically relevant constructs.

**Task-Value Beliefs**

In addition to self-efficacy, the value placed on studying for a particular class may also be relevant to procrastination. Task values represent the appeal that task engagement holds for an individual; the evaluation of value is subjective and depends not merely on the characteristics of the task but also on the needs and goals of the individual (Eccles, 1983). According to Eccles and Wigfield (Eccles & Wigfield, 1995; Eccles, 1983, 2005),
the three predominant components of task value are perceived utility, interest, and attainment. Utility value reflects how useful or instrumental a task is to attaining some future goal. Interest, or intrinsic, value is the appeal of a task based on how engaging or likeable it appears to be. Attainment value represents the degree to which a task is personally important and consistent with how one views oneself.

In general, high task values relate to high levels of task engagement, whereas low task values relate to low levels of task engagement (Eccles, 2005). Where procrastination represents the delay of engagement in academic tasks such as studying, low task value may be a source of such delay. Engagement tends to be incumbent upon the perception of a task being interesting or meaningful (Siegle, Rubenstein, Pollard, & Romey, 2009). When these attributes are lacking in an academic venture, students may avoid it, and indeed task aversion is a common root of passive procrastination (Ackerman & Gross, 2005; Solomon & Rothblum, 1984b). Research also indicates that students choose to delay a task so that external circumstances make it appear more challenging and interesting (Brinthaupt & Shin, 2001). In this sense, it may be that the intentional delay component of active procrastination is an academic coping strategy that addresses a lack of task value. For both passive and active procrastination, low task value may be a salient feature, albeit for different underlying reasons.

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2 A fourth aspect of task value is cost: what one must give up, in terms of other valued opportunities, or suffer, in terms of negative affect, when pursuing a certain activity (Eccles, 2005). For the purposes of the present paper, I focus on the three positive aspects of task values and possible consequences of their absence.
The Present Study

As motivation tends to depend on the specific context (for a review, see Perry, Turner, & Meyer, 1996), I studied procrastination in the context of a specific course: undergraduate human anatomy. Procrastination and poor motivation have been identified as particularly detrimental in college science courses, possibly due to the requirement to memorize large amounts of information for objective tests (Beck, Koons, & Milgrim, 2000).

The major purpose of this study was to examine whether passive and active procrastination are as distinct as has been proposed or, rather, if they might resemble one another in terms of the academic beliefs and outcomes discussed in the previous section, particularly when examining the component parts of active procrastination. I anticipated that at least one component of active procrastination would demonstrate a lack of concurrent validity with other indicators of procrastination, such that any positive associations with motivation and academic outcomes might be qualified by the question of whether the component reflected procrastination at all. As active procrastination is an emerging construct and little research has examined its component parts, however, I did not predict which specific components of active procrastination would have negative relations with the aforementioned variables. My three research questions were the following.

First, what are the specific components of active procrastination in the sample of undergraduate anatomy students and, further, what is the relation of each form of
procrastination (i.e., passive procrastination and the components of active procrastination) to other indicators of procrastination? In other words, are all forms corroborated as actual procrastination, as reinforced by the number of days of self-reported delay in preparing for an anatomy test and a measure of the frequency of delaying anatomy assignments?

Second, what are the relations of each form of procrastination to background variables (specifically, gender and ACT score) and academically relevant beliefs (specifically, a domain-general belief that learning takes time, self-efficacy in anatomy, and task values for anatomy)? In terms of the background variables, I anticipated that male students would procrastinate more than female students. I also anticipated that passive procrastination would have negative relations to motivational beliefs, whereas different components of active procrastination would have either positive or negative relations. Specifically, those components of active procrastination that were corroborated by other indicators of procrastination would have negative relations with these beliefs, whereas those components that were not corroborated by other indicators of procrastination would have positive relations. Finally, I anticipated that task value and self-efficacy would interact such that self-efficacy would moderate the role of task value in procrastination.

Third, controlling for ACT score as indicator of ability, what are the relations of each form of procrastination to achievement in anatomy? I anticipated a negative relation of passive procrastination to anatomy grades even after accounting for ACT score,
whereas I expected the components of active procrastination to have non-significant relations to grades when accounting for ACT score.

**Method**

The following section provides an overview of the students who participated in the study and the measures they completed.

**Participants**

Participants were 320 undergraduate students enrolled in Human Anatomy, a four-credit prerequisite course for students in pursuit of health sciences majors at a large, public university in the Midwestern United States during spring semester 2013. This required course served primarily first- and second-year students from multiple areas, including pre-nursing and pre-allied medical professions. Consistent with typical enrollment patterns in the course, most participants (78%) were female. In terms of ethnicity, 83% were White, 5% were Asian, and 3% each were Hispanic, African-American, or bi- or multiracial.

**Procedure**

I visited the beginning of each laboratory section of the anatomy course to describe the study and request that students complete a voluntary and confidential online survey. As an incentive, students could enter a drawing to win one of five $25 gift cards. The survey included questions from instruments that measured the variables of interest to the study, described below. Students were able to complete the survey in a two-week
period following their first exam and prior to their second exam. Demographic and academic information was acquired from university and instructor records.

**Measures**

The central measures selected for this study were based on motivational theory and previous research, having acceptable levels of reliability, a record of predicting achievement, associations with related constructs, and distinctions from dissimilar constructs (Choi & Moran, 2009; Dweck, Chiu, & Hong, 1995; Pintrich, Smith, Garcia, & McKeachie, 1991; Pintrich et al., 1993; Tuckman, 1991; Wood & Kardash, 2002).

With the exception of the items containing procrastination measures used to ascertain validity, described below, all items were placed on seven-point Likert-type scales with anchored end points and a neutral middle option.

**Passive procrastination.** Passive procrastination was measured using the fifteen-item domain-specific adaption (Hensley & Burgoon, 2013) of the Tuckman Procrastination Scale (TPS; Tuckman, 1991), which measured delaying course-related tasks and activities (sample item = “In this course, I’m an incurable time waster”). This scale is considered to measure passive procrastination in that the items reflect avoidant tendencies and have a sense of inevitability to them (Tuckman, 1991). Tuckman established an acceptable reliability coefficient for the domain-general scale (α = .86) and demonstrated the scale’s concurrent validity with non-completion of weekly extra-credit homework and construct validity with a lack of confidence in one’s general abilities to accomplish tasks. Hensley and Burgoon found that the domain-specific adaptation of the
scale demonstrated construct validity by means of negative associations with self-esteem, conscientiousness, and perceived ability, consistent with the conception of passive procrastination as a behavior in which students with low confidence and self-regulation engage (Klassen et al., 2008).

Active procrastination. Active procrastination was measured using the domain-specific adaption (Hensley & Burgoon, 2013) of the Active Procrastination Scale (APS; Choi & Moran, 2009), which measured aspects reflecting purposeful and beneficial procrastination (sample item = “In this course, I intentionally put off work to maximize motivation”). The scale’s sixteen items covered four characteristics that are considered to reflect adaptive components of procrastination: outcome satisfaction, preference for pressure, intentional decision to procrastinate, and ability to meet deadlines (Choi & Moran). Choi and Moran (2009) indicated that the scale exhibited positive relations to control over time, preference for multitasking, emotional stability, and self-reported academic performance. Although sample size did not allow for factor analysis, Hensley and Burgoon (2013) demonstrated that the domain-specific adaptation had similarities to Choi and Morgan’s conceptualization of the construct as an adaptive tendency; specifically, the scale as a whole had positive associations with conscientiousness, perceived ability, and effort regulation, consistent with the conception of active procrastination as a form of self-regulated delay (Mortensen & Miller, 2012).

Other measures of procrastination. As a test of concurrent validity, two other measures indicated students’ procrastination behaviors. First, the frequency of
procrastination subscale from the Procrastination Assessment Scale-Students (PASS; Solomon & Rothblum, 1984) measured the degree to which students typically procrastinated. The present study included three items that were adapted to address students’ major course activities: studying for exams in anatomy, keeping up with weekly readings in anatomy, and keeping up with assignments in anatomy (1 = Never Procrastinate; 2 = Almost Never; 3 = Sometimes; 4 = Nearly Always; 5 = Always Procrastinate). The PASS has been substantiated as a valid measure of procrastination by means of associations with such aspects as delayed behavior in taking self-paced quizzes (Solomon & Rothblum) and spending little time studying (Beck, Koons, & Milgrim, 2000). Adapted versions of the frequency subscale are commonly used in order to represent the specific academic demands of a given sample (Harrington, 2005).

The second measure of procrastination was an indicator of behavioral procrastination. Having recently completed their first anatomy exam, students indicated the number of days before the exam they had begun to prepare (where 0 = the day of the exam; low numbers reflected high procrastination, and high numbers reflected low procrastination). The median number of days of preparation was five (\( M = 6.43, \text{ SD} = 4.39, \text{ range of 0 to 24} \)). Although social desirability posed a threat to validity, previous studies using similar items (e.g., Ackerman & Gross, 2005; Hensley & Burgoon, 2013) have suggested that students readily admit that they do not begin to study until soon before an exam. Additionally, the timing of the survey—made available the morning following the administration of the Unit I anatomy exam—and the focus of the question
on a single event reduced the role of two common sources of miscalibration: poor memory (Boekaerts & Corno, 2005) and the generalization of typical habits (Bowman, 2011).

**Speed of knowledge acquisition.** To measure the belief that learning occurs quickly or not at all (i.e., a simple epistemological belief) or gradually (i.e., a complex epistemological belief), the survey included the eight-item Speed of Knowledge Acquisition scale from Wood & Kardash’s (2002) Epistemological Beliefs Scale (EBS). This dimension pertained to “beliefs about the process of learning, with an emphasis on the time it takes for learning to occur” (Wood & Kardash, p. 250). Items were reverse-coded so that high scores represented more cognitively complex beliefs, as defined in developmental literature as being a more mature or adaptive way of thinking about knowledge (Nist & Holschuh, 2005). A cognitively simple belief was reflected by agreement with a statement such as, “If I can’t understand something quickly, it usually means I will never understand it” (p. 246), reflecting the expectation that if learning is to occur, it will occur right away. Conversely, a cognitively complex belief was reflected by disagreement with such statements, reflecting the expectation that learning is a gradual process. Wood and Kardash reported a reliability coefficient of .74, and Schommer-Aikins and Easter (2008) offered evidence of construct validity by demonstrating associations between a cognitively complex view of knowledge acquisition and both academic motivation and the use of effective learning strategies.
**Self-efficacy and task values.** The survey included the eight-item Self-Efficacy for Learning and Performance and six-item Task Value subscales from the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991). These domain-specific measures asked students to reflect upon learning in a specific course, and students were instructed to respond based upon their anatomy course. A sample item for self-efficacy was “I'm confident I can understand the most complex material presented by the instructor in this course” (p. 13), and a sample item for task value was “It is important for me to learn the course material in this class” (p. 11). Pintrich et al. (1993) established validity for these two subscales in terms of correlations with grades and other expected relations with various motivational constructs (e.g., intrinsic motivation, belief about controlling one’s own learning). Further, in a meta-analysis of 67 independent undergraduate samples, self-efficacy and task value had mean alpha coefficients of .91 and .87, respectively (Credé & Phillips, 2011).

**Ability and achievement.** Students’ composite ACT test scores served as a proxy of academic aptitude or ability (e.g., Alarcon & Edwards, 2012). The mean ACT composite score was 26.62 (SD = 3.49). The Unit II exam grade \(M = 81.12, SD = 14.86\) and the final course grade \(M = 83.19, SD = 12.20\) indicated achievement in anatomy. The non-comprehensive objective exam (Unit II: The Back and Upper Limb) was not graded on a curve. The 100-point exam consisted of 50 multiple-choice, matching, and diagram-identification questions, each worth two points. The final course grade on a 100-point scale represents the proportion of points earned out of 480 possible points (e.g., 384
points was equivalent to an 80 in the course). The components of the final grade were four non-comprehensive objective exams (100 points each) and four sets of online mastery quizzes that students were able to retake multiple times until attaining a satisfactory score (20 points each). In addition, a full letter grade (i.e., 10 points) was deducted from the final grade of any student who missed four or more laboratory session out of a total of 13. Two students fell into this category.

Results

The results below address the research questions through factor analysis, descriptives, correlations, and regression analyses for different forms of procrastination and grades. I begin by describing the factor analysis to aid in interpretability of the analyses that follow.

Factor Analysis

Because the Active Procrastination scale had not been developed in the context of anatomy at an American university, it was possible that the measurement would exhibit a different factor structure as a domain-specific adaptation in this context. As such, I conducted exploratory factor analysis using the maximum likelihood extraction method, as data were normally distributed (Costello & Osborne, 2005). Visual examination of the scree plot indicated the existence of three discrete factors (Catrell, 1966, as cited in Hellman & Caselman, 2004), each with an Eigenvalue very near or above one (Cliff, 1988; Kiefer & Ryan, 2008). To examine the items’ loadings in each of the three factors, I used oblique rotation (direct oblimin method). This method of factor rotation
“simplify[ied] and clarify[ied] the data structure” in a setting where factors were expected to be correlated with one another (Costello & Osborne, 2005, p. 3). In determining the appropriate composition of each factor, I considered both factor loadings and the contribution of items to the interpretability of each factor (e.g., Le, Casillas, Robbins, & Langley, 2005; Pajares, 2011). Item 5 loaded nearly equally on two factors. I chose to include it in factor 1 due to its level of conceptual closeness with the other items with high loadings on this factor (e.g., Miller, Greene, Montalvo, Ravindran, & Nicholson, 1996), which centered on aspects of working under pressure. The statistics related to each item and factor appear in Table 3.1.

Two of the factors reflected the same factors (and corresponding subscales) as in Choi and Moran’s (2009) Active Procrastination Scale: Intentional Decision to Delay (i.e., deliberate postponement of academic tasks and activities) and Ability to Meet Deadlines (i.e., on-time completion of academic tasks and activities). The third factor was a combination of two of Choi and Moran’s factors and corresponding subscales: Outcome Satisfaction and Preference for Pressure. The third factor, accordingly, was called Satisfying Outcomes Under Pressure (i.e., achieving acceptable results on academic tasks and activities when working within a limited timeframe). Overall, the items reflected similar factor structure to that of the original scale with two important differences: (1) Satisfying Outcomes Under Pressure combined two components of the original scale (i.e., performing well academically and enjoying working under pressure), and (2) Intentional Decision to Delay exhibited negative correlations with the other two factors. This
unexpected finding, which continued to be present after confirmation that reverse-coding of items was completed accurately, conflicts with previous findings that the subscales point to a composite form of active procrastination (Chu & Choi, 2005) and are positively correlated with one another (Choi & Moran, 2009).
Table 3.1
Factor Analysis of the Domain-Specific Active Procrastination Scale

<table>
<thead>
<tr>
<th>Factor and items</th>
<th>$M$</th>
<th>$SD$</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Ability to Meet Deadlines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 15: I'm often running late when getting things done in this course. (R)</td>
<td>4.91</td>
<td>1.68</td>
<td>.93</td>
<td>-.07</td>
<td>.04</td>
</tr>
<tr>
<td>Item 13: In this course, I often start things at the last minute and find it difficult to complete them on time. (R)</td>
<td>5.14</td>
<td>1.67</td>
<td>.68</td>
<td>.12</td>
<td>-.11</td>
</tr>
<tr>
<td>Item 14: In this course, I often fail to accomplish goals that I set for myself. (R)</td>
<td>5.06</td>
<td>1.66</td>
<td>.65</td>
<td>.20</td>
<td>.01</td>
</tr>
<tr>
<td>Item 16: I have difficulty finishing activities for this course once I start them. (R)</td>
<td>5.49</td>
<td>1.42</td>
<td>.48</td>
<td>.14</td>
<td>-.20</td>
</tr>
<tr>
<td><strong>Factor 2: Satisfying Outcomes Under Pressure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 8: I'm frustrated when I have to rush to meet deadlines in this course. (R)</td>
<td>3.68</td>
<td>1.75</td>
<td>.09</td>
<td>.62</td>
<td>-.16</td>
</tr>
<tr>
<td>Item 1: My performance tends to suffer in this course when I have to race against deadlines. (R)</td>
<td>3.95</td>
<td>1.76</td>
<td>.24</td>
<td>.61</td>
<td>-.07</td>
</tr>
<tr>
<td>Item 7: I feel tense and cannot concentrate in this course when there's too much pressure on me. (R)</td>
<td>4.28</td>
<td>1.70</td>
<td>.27</td>
<td>.57</td>
<td>-.04</td>
</tr>
<tr>
<td>Item 2: In this course, I don't do well if I have to rush through a task. (R)</td>
<td>3.14</td>
<td>1.57</td>
<td>.04</td>
<td>.54</td>
<td>-.00</td>
</tr>
<tr>
<td>Item 3: If I put things off until this last minute in this course, I'm not satisfied with their outcomes. (R)</td>
<td>3.33</td>
<td>1.73</td>
<td>.02</td>
<td>.50</td>
<td>.07</td>
</tr>
<tr>
<td>Item 4: I achieve better results in this course if I complete a task at a slower pace, well ahead of a deadline. (R)</td>
<td>2.53</td>
<td>1.37</td>
<td>-.23</td>
<td>.47</td>
<td>.12</td>
</tr>
<tr>
<td>Item 5: In this course, it's really a pain for me to work under upcoming deadlines. (R)</td>
<td>4.93</td>
<td>1.59</td>
<td>.42</td>
<td>.40</td>
<td>-.20</td>
</tr>
<tr>
<td>Item 6: I'm upset and reluctant to act when I'm forced to work under pressure in this course. (R)</td>
<td>4.96</td>
<td>1.56</td>
<td>.17</td>
<td>.38</td>
<td>-.29</td>
</tr>
<tr>
<td><strong>Factor 3: Intentional Decision to Delay</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 9: To use my time more efficiently in this course, I deliberately postpone some tasks.</td>
<td>3.37</td>
<td>1.68</td>
<td>.15</td>
<td>-.02</td>
<td>.88</td>
</tr>
<tr>
<td>Item 11: In order to make better use of my time in this course, I intentionally put off some tasks.</td>
<td>3.21</td>
<td>1.65</td>
<td>-.03</td>
<td>.03</td>
<td>.78</td>
</tr>
<tr>
<td>Item 10: In this course, I intentionally put off work to maximize my motivation.</td>
<td>2.71</td>
<td>1.52</td>
<td>-.32</td>
<td>.07</td>
<td>.40</td>
</tr>
<tr>
<td>Item 12: I finish most of my assignments for this course right before deadlines because I choose to do so.</td>
<td>3.64</td>
<td>1.81</td>
<td>-.20</td>
<td>.06</td>
<td>.36</td>
</tr>
<tr>
<td><strong>Eigenvalue</strong></td>
<td>5.99</td>
<td>2.28</td>
<td></td>
<td></td>
<td>.97</td>
</tr>
<tr>
<td><strong>Percentage of variance explained</strong></td>
<td>37.45</td>
<td>14.25</td>
<td>6.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cronbach’s $a$</strong></td>
<td>.85</td>
<td>.81</td>
<td>.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Adapted from Choi and Moran’s (2009) Active Procrastination scale (“in this course” incorporated into each item). In the present study, analyses focused on the three above-identified factors of active procrastination, rather than the 16-item active procrastination scale as a whole. Bold text indicates the factor-loading value selected for each item and its associated factor. In all cases but one, bolded values represent the highest loading for each item.*
Descriptive Statistics and Bivariate Correlations

Table 3.2 presents descriptive statistics and correlations of the continuous variables. Where applicable, the table also lists alpha coefficients for the current study; all scales had reliability coefficients of .75 or above.

I used t-tests for independent samples to determine whether gender related to higher engagement in any of the forms of procrastination, using a Bonferroni-adjusted alpha level of .016 to account for the six one-tailed comparisons (= .10/6). Males reported higher levels of procrastination than females in terms of beginning to study fewer days prior to the exam ($M_{Male} = 5.09, SD = 3.24$ vs. $M_{Female} = 6.80, SD = 4.59$), $p < .001$, and more frequently making an intentional decision to delay ($M_{Male} = 3.56, SD = 1.29$ vs. $M_{Female} = 3.14, SD = 1.24$), $p = .014$. In addition, male students’ higher overall frequency of procrastination for studying, weekly readings, and assignments in anatomy approached significance ($M_{Male} = 3.07, SD = .90$ vs. $M_{Female} = 2.79, SD = .87$), $p = .021$. Differences in terms of gender did not emerge for any other procrastination variable.

The bivariate correlations among the measures of procrastination revealed areas of similarity and distinction. In terms of similarities, passive procrastination and the intentional decision to delay had a strong positive correlation with one another ($r = .66$), as did the ability to meet deadlines and satisfying outcomes under pressure ($r = .59$). Passive procrastination and intentional decision to delay each exhibited concurrent validity with other measures of procrastination, having strong negative relations to the indicator of non-procrastination (i.e., number of days prior to the Unit I exam that
Table 3.2
Means, Standard Deviations, Alpha Coefficients, and Bivariate Correlations

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Note. Ability to meet deadlines, satisfying outcomes under pressure, and intentional decision to delay are the three factors of active procrastination. a. How many days before an exam students began to study; higher numbers represent lower procrastination. b. Reverse coded so that higher scores represent more complex beliefs (i.e., knowledge is acquired gradually). *p < .05; **p < .01; ***p < .001.
students began to study; \( r = -.50 \) and \( r = -.36 \), respectively) and strong positive relations with the frequency of procrastination subscale from the PASS \( (r = .75 \) and \( r = .50, \) respectively). In contrast, ability to meet deadlines and satisfying outcomes under pressure correlated positively with beginning to study a high number of days before the Unit I exam \( (r = .40 \) and \( r = .17, \) respectively) and negatively with the frequency of procrastination \( (r = -.65, \) \( r = -.31, \) respectively).

Passive procrastination and the intentional decision to delay, on the one hand, and ability to meet deadlines and outcome satisfaction under pressure, on the other hand, exhibited two general patterns of relations with the academic belief variables. Both passive procrastination and the intentional decision to delay had negative and significant correlations to believing that knowledge acquisition occurred gradually, valuing anatomy-related tasks, and having self-efficacy in anatomy. In contrast, both ability to meet deadlines and satisfying outcomes under pressure had positive and significant correlations to these variables.

In terms of measures of ability and achievement, satisfying outcomes under pressure had a slight positive relation \( (r = .12) \) with composite ACT score, though no other form of procrastination exhibited a significant relation. ACT score, however, had a moderately strong relation with exam grade and course grade \( (r's > .30) \). The ability to meet deadlines and satisfying outcomes under pressure positively related to high grades on both the exam and in the course, whereas passive procrastination and the intentional decision to delay related to low exam and course grades.
Multiple Regression Analyses

To examine the amount of variance in procrastination and academic performance explained by the academic belief variables after accounting for the role of background variables, I conducted a series of hierarchical multiple regression analyses (Keith, 2006). The first set of multiple regression analyses controlled for gender and ACT score in examining the relations of academic beliefs to four forms of procrastination (i.e., passive procrastination and the three components of active procrastination identified by factor analysis). The second set of multiple regression analyses examined the forms of procrastination as predictors of exam and course grades, controlling for the background variables and motivational beliefs. To reduce multicollinearity among variables, I centered all predictor variables at their means (Keith). In addition, I did not include ability to meet deadlines in the prediction of grades, due to its high correlation with passive procrastination. Multicollinearity diagnostics for all models indicated that the variables exhibited a high degree of tolerance for one another and that condition indices for the model dimensions were at acceptable levels (Keith).

Chief goals of hierarchical regression analysis are to view the total amount of variance explained by set of predictors as a whole and to view the amount of unique variance explained by certain predictors over and above other predictors (Kachigan, 1991; Keith, 2006). The appeal of regression analysis in this study was its ability to establish the relative importance of each variable in terms of explaining variance in the criterion of interest, especially when accounting for the presence of other variables (Kachigan), as
existing research has not examined how ability may account for the academic achievement of students who exhibit components of active procrastination.

Similar to previous research that assesses the contribution of motivational constructs to similar but distinct criterion variables (e.g., Corkin et al., 2011; Wolters & Benzon, 2013), I conducted separate hierarchical regression analyses for the four forms of procrastination. For the models predicting procrastination, I entered the variables in three steps: (1) the background variables of gender and ACT score, (2) the domain-general belief about the speed of knowledge acquisition and the domain-specific self-efficacy and task-value beliefs, and (3) the interaction of self-efficacy and task value. I then examined academic outcomes by running two additional regression models to predict exam grade and course grade, entering the background and belief variables first, followed by the procrastination variables (e.g., Corkin et al., 2011). The use of hierarchical regression permitted me to examine the additional variance explained by each category of predictors in order to test whether procrastination explained differences in performance beyond what might be explained by academic aptitude and beliefs. As I examined more than one criterion variable, I used a more conservative alpha level of .013 (.05/4) for the procrastination analyses and .025 (.05/2) for the grade analyses (e.g., Wolters & Benzon, 2013)

**Prediction of procrastination.** Table 3.3 presents the results of regression analyses for the four forms of procrastination. Even at the more conservative alpha levels, all models and most academic beliefs were significant, suggesting that self-efficacy and task value, in
particular, have robust relations to the procrastination variables. The model for intentional
decision to delay contained the least amount of explained variance, approximately 14%, $F$
$(6, 299) = 8.16, p < .001$. The model for the ability to meet deadlines contained the greatest
amount of explained variance, approximately 36%, $F (6, 299) = 26.97, p < .001$.

For passive procrastination and the ability to meet deadlines, self-efficacy and task
value both exhibited significant main effects. In general, the lower the self-efficacy or task
value, the greater the passive procrastination, whereas high self-efficacy and task values
were associated with high ability to meet deadlines. The contribution of these two predictor
variables, however, was multiplicative as opposed to additive, and their interaction
explained unique variance in passive procrastination and the ability to meet deadlines
above the contribution of the other variables. The addition of the interaction term in step 3
resulted in $\Delta R^2 = .02$, $F$ Change = 7.64, $p = .006$ for passive procrastination and $\Delta R^2 = .03$,
$F$ Change = 11.26, $p < .001$ for the ability to meet deadlines.

Figures 3.1 and 3.2 portray the two interactions. High/low self-efficacy and task
values reflect the amount one standard deviation above/below their respective means, and
passive procrastination and ability to meet deadlines are centered at their respective means.
The interactions indicated that, for passive procrastination and ability to meet deadlines,
having a certain level of task value did little to distinguish between students with low self-
efficacy. For students with high self-efficacy, however, the level of task value made a
difference in that highly efficacious students with high task values were especially unlikely
to report passive procrastination and especially likely to report an ability to meet deadlines.
Figure 3.1. Variation in passive procrastination as a function of the self-efficacy by task value interaction.

Figure 3.2. Variation in ability to meet deadlines as a function of the self-efficacy by task value interaction.
Although the conditional interaction effect was not significant for the other two components of active procrastination, specific academic beliefs were important aspects of these models. Self-efficacy was a notable predictor of achieving satisfying outcomes under pressure ($\beta = .42, p < .001$). As ACT score was accounted for in the model, it appeared that it was not so much a general, underlying ability but rather students’ beliefs about their abilities in the subject area that held importance for viewing themselves as being able to achieve satisfactory results when working within a limited time frame. Self-efficacy was also a significant predictor of the intentional decision to delay, though in the opposite direction ($\beta = -.19, p = .005$). Thus, although satisfying outcomes under pressure and intentional delay were two factors derived from the same pool of items intended to measure a single construct, they appeared to point to different sources of motivation insofar as one was a tendency of high-efficacy students, consistent with previous definitions of active procrastination as a whole, and the other a tendency of low-efficacy students, resonating more with traditional definitions of passive rather than active procrastination. Task value did not explain a significant amount of variance of satisfying outcomes under pressure. It did, however, exhibit a negative association ($\beta = -.15, p = .027$) with the intentional decision to delay.

**Prediction of grades.** Additional analyses addressed the research questions in regard to academic outcomes. Table 3.4 presents the results of the regression analyses predicting grades, both in the short-term (a single exam) and as the sum total of students’
anatomy work over the whole semester (final course grade). I controlled for the background variables in step 1, added the motivational belief variables in step 2, and then added the forms of procrastination in step 3; ability to meet deadlines was omitted from the model due to issues of multicollinearity caused by its high correlations with other predictor variables.

The amount of variance explained by the combination of background, academic-belief, and procrastination variables was approximately 24%, $F (8, 290) = 11.14, p < .001$ for exam grade and approximately 32%, $F (8, 290) = 16.45, p < .001$ for course grade. More than any other factor, ACT score explained variance in anatomy grades ($\beta = .30, p < .001$ for both outcomes) in that students with high academic aptitude as measured by the standardized college entrance exam tended to perform at high levels in the course. Even when accounting for ACT scores, self-efficacy was an important predictor of grades ($\beta = .23, p < .001$ for exam grade and $\beta = .24, p < .001$ for course grade), indicating that students who had a high sense of competence in anatomy performed at high levels.

For overall course grade but not the unit exam, the belief about the speed of knowledge acquisition was a significant and positive predictor ($\beta = .14, p = .008$), indicating that students who believed that learning was something acquired gradually over time received a higher grade in the course overall. As the Unit II exam occurred during the first half of the course and did not require the endurance of high performance throughout a full semester, it is possible that the speed-related belief played its most salient role in the longer term.
Adding in the three procrastination variables in the final step explained additional variance ($\Delta R^2 = .02$, $F$ Change = 2.66, $p = .048$ for exam grade and $\Delta R^2 = .04$, $F$ Change = 5.46, $p = .001$, for course grade), indicating that, beyond the role of background variables and academic beliefs, passive procrastination held importance for academic outcomes, particularly in terms of final course grade. Passive procrastination was a strong and significant individual predictor ($\beta = -21$, $p = .015$ and $\beta = -.28$, $p < .001$) of exam grade and final grade, whereas satisfying outcomes under pressure and intentional decision to delay were not significant predictors of grades. Students who procrastinated in a passive manner performed poorly in anatomy to an extent beyond what might otherwise be expected due to background variables or beliefs about learning and anatomy, and the negative role was particularly notable for the overall course grade. On the other hand, satisfying outcomes under pressure and intentional decision to delay were not significant predictors of grades when the equation accounted for other academically and motivationally important variables. In essence, viewing oneself as working well under pressure or purposively deciding to procrastinate did not imply that students were any more or less likely to receive good grades in anatomy.
Table 3.3
Hierarchical Regression Analyses Predicting Procrastination Variables

<table>
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Note. Ability to meet deadlines, satisfying outcomes under pressure, and intentional decision to delay are the three factors of active procrastination.

a. 0=male, 1=female. β indicates the standardized regression coefficient. The self-efficacy x task value interaction, tested in Step 3 for all four models, did not explain a significant amount of additional variance in Satisfying Outcomes Under Pressure or Intentional Decision to Delay (Step 3 not shown).

*p < .05; **p < .01; ***p < .001
Table 3.4  
*Hierarchical Regression Analyses Predicting Grades*

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*Note.* Ability to meet deadlines was not included in analyses due to high correlations with other predictor variables.  
<sup>a</sup> 0=male, 1=female. β indicates the standardized regression coefficient.  
*<i>p<.05</i>; **<i>p<.01</i>; ***<i>p<.001</i>
Discussion

Findings of the present study revealed notable differences in various forms of procrastination in terms of gender, beliefs, achievement, and alternate measures of academic postponement (i.e., the validating measures of procrastination). These findings point toward future directions regarding the measurement and conceptualization of active procrastination.

Differences in Gender, Motivational Beliefs, and Grades

Gender differences in the frequency of specific forms of procrastination reinforced the notion that not all forms of procrastination are created equal. The precise reasons why certain forms of procrastination were more commonly reported by male students than female students were unclear, but the pattern is consistent with research suggesting that males engage in and report higher amounts of high-sensation behaviors than females (Jensen, Arnett, Feldman, & Cauffman, 2002).

Other distinctions among forms of procrastination related to individual differences in academic beliefs. One notable finding is that, depending on the level of self-efficacy, task value had a conditional effect on passive procrastination and the ability to meet deadlines. In both cases, the slope was steeper for students with high task values. Although task value was important for all students, it was particularly important for students with high self-efficacy. It may be that having high self-efficacy makes the value of the task all the more personally relevant, as students think not only that the task matters but also that they can be successful on the task, such that students become especially motivated not to
procrastinate in a passive manner, and especially able to motivate themselves to meet deadlines. Without a boost of confidence related to believing they can learn successfully, viewing a task as important, interesting, or useful may not drastically change the level of passive procrastination or ability to meet deadlines for students with low efficacy, as these students may not view time-usage patterns as being able to make much of a difference in their academic performance. In terms of practical implications, teachers and others who work to support students’ academic strategy use may find that their efforts most effective when they help students raise their level of perceived competence.

Motivational differences between two components of active procrastination—satisfying outcomes under pressure and the intentional decision to delay—were also apparent; self-efficacy was a positive predictor of the former but a negative predictor of the latter, and task value was not a significant predictor of the former but was a negative predictor of the latter. Viewing oneself as attaining satisfying outcomes under pressure may depend little on whether the task itself is appealing; instead, the perception may boil down to whether students view themselves as capable of performing competently, even under time constraints. Indeed, the items comprising this factor indicate students have no qualms with deadlines, pressure, or rushing and, further, that they do not experience performance decrements when work is completed close to a deadline. It is not as clear, however, why students who feel less capable would intentionally delay their academic work. A review of the items comprising the intentional-delay factor suggest that such students primarily procrastinate out of a desire to work efficiently (e.g., “To use my time more efficiently in
this course, I deliberately postpone some tasks”) and to feel a sense of motivation, perhaps when the content itself is unappealing (e.g., “In this course, I intentionally put off work to maximize my motivation”). What may matter more to these students is simply accomplishing the work, rather than the level of performance expected to result.

A major reason that procrastination is a topic of interest in educational research and practice is that it is thought to impact students’ academic performance. The present study indicated that, in terms of bivariate correlations, passive procrastination and intentional decision to delay had negative associations with exam and course grades, whereas the association was positive for ability to meet deadlines and satisfying outcomes under pressure. Regression analyses that accounted for ACT score and self-efficacy, however, indicated that only passive procrastination was a positive predictor of grades. Moreover, passive procrastination and academic beliefs were important in terms of a single exam but even more so in the scheme of an entire course, which may be explained by the persistence required to perform well over the course of an entire semester. This is consistent with the finding that the expectation for learning to occur quickly is associated with a lack of effort or resilience (Cano & Cardelle-Elawar, 2008).

In terms of motivation’s relations to academic outcomes, this study adds to the evidence that grades are not just a reflection of underlying ability but also depend on beliefs about learning and the perceived ability to understand and perform in a given subject area.
Measurement and Definition of Active Procrastination

To this point in the paper, ability to meet deadlines, satisfying outcomes under pressure, and intentional decision to delay have been referred to as components of active procrastination. It should be apparent, however, that one of these is not like the others. Conducting factor analysis on the active procrastination scale in the present study revealed similarities to Choi and Moran’s (2009) original factor structure but was not identical. The main difference that cannot be overlooked is that the intentional decision to delay was negatively correlated with the two other resulting factors of active procrastination. What is more, intentional decision to delay—the only factor of active procrastination to exhibit concurrent validity with alternate measures of academic postponement in anatomy—exhibited negative relations with motivational beliefs and grades. In contrast, ability to meet deadlines and satisfying outcomes under pressure exhibited positive relations to both academic beliefs and grades.

These findings, however, should not be interpreted as evidence of the academically adaptive nature of active procrastination. For one, the relation between satisfying outcomes under pressure and grades was accounted for by shared variance with other variables in the regression analyses, which supports the notion that positive relations between active procrastination (or a component thereof) and grades are strictly a matter of correlation and not causation. In other words, to say that an active procrastinator receives high grades is not to say that active procrastination leads to high grades. Secondly, reporting a characteristic associated with active procrastination does
not necessarily imply that the student procrastinates. Ability to meet deadlines and satisfying outcomes under pressure lacked concurrent validity with the corroborating measures of procrastination (i.e., number of days of delay and typical frequency of procrastination). Thus, the question arises as to whether these components can be said to reflect the behavior of procrastination.

In contrast, the intentional decision to delay did exhibit concurrent validity with the academic postponement measures, which supports viewing it as a form of procrastination. Notably, intentional decision to delay was similar to passive procrastination in terms of motivational beliefs, but it was not quite as strong of a reflection of low self-efficacy as passive procrastination was. Further, whereas passive procrastination explained variance in low grades when accounting for other variables, intentional decision to delay did not. Thus, to the extent that intentional decision involves a greater element of choice or volition than passive procrastination, it does appear to be both active and procrastination. It also appears to be somewhat less negative or maladaptive from an educational standpoint.

Still, the existence of negative associations with beliefs about the speed of learning, self-efficacy, and task value suggests that encouraging students to delay in an intentional manner is not the wisest practical application of the overall findings. As Sirois (2004) has cautioned, “focusing on how things were not as bad as they could have been…engenders a sense of satisfaction and complacency that may result in less thought about how to act in a more timely manner in the future” (p. 280). Thus, educators should
remain wary about even those forms of procrastination that students describe as purposeful.

Limitations and Future Directions

A limitation of the study was the reliance on self-report measures, as students may have intentionally misrepresented their actual beliefs and tendencies to the extent that they recognized certain patterns as desirable or undesirable (Bowman & Hill, 2011). Several measures were in place to enhance the validity of students’ responses, however. To reduce the biasing of responses toward or away from particular constructs, the survey software randomized the ordering of questions so as not to present constructs as intact sets. Survey instructions also emphasized that responses would be confidential, that there were no right or wrong answers (Karabenick & Knapp, 1991; Norton, Tilley, Newstead, & Franklyn-Stokes, 2001), and that responses would not be shared with the instructor. Additionally, as students completed the survey online in a private space, they may have been more likely to respond honestly than if completing the survey in a classroom where other students or the instructor might have been able to view responses (Kreuter, Presser, & Tourangeau, 2008).

Although the combination of variables explained a significant amount of the variance, additional variance remained unaccounted for, indicating that variables not included in this study are likely to further explain the nature and contributing factors of various forms of procrastination. Future research should supplement the present findings by means of behavioral measures and further examination of the construct of active
procrastination through the inclusion of other motivation-related variables, such as sensation-seeking. As revisiting the conceptualization of active procrastination and its components may be warranted, qualitative approaches that draw data from journals, interviews, and focus groups may help enhance what is known about active procrastination and its associated beliefs and behaviors.

Importantly, this study measured active procrastination in a domain-specific sense; it is possible that the findings and their departure from what has previously been found about active procrastination was the result of domain-specific measurement or may occur primarily in subjects like anatomy. Future research should test the use of the domain-specific scales in other disciplines, perhaps comparing and contrasting them with the original domain-general scales, to either replicate or qualify the findings of the present study.
Chapter 4: “It’s Just the Flipside…that Is Not Enhanced”: A Phenomenological Study of Active Procrastination

How students use and perceive of time is a salient issue in education. Although students’ claims of working well under pressure are nothing new (see, for instance, R. Sommer, 1968), in recent years there has been a renewed emphasis on divergence from the standard definition of procrastination to highlight its potentially beneficial attributes and outcomes. This trend is seen, for instance, in the construct of active as opposed to passive procrastination (Choi & Moran, 2009; Chu & Choi, 2005). The scholarly literature (e.g., Choi & Moran; Chu & Choi; Schraw, Wadkins, & Olafson, 2007) has begun to document what students have long claimed: that procrastination can be perceived as a personally desired and even academically productive behavior. Such findings suggest it may no longer be sufficient to simply tell students not to procrastinate. At the same time, those who research and work in the postsecondary context likely have unresolved questions as to what the experience of active procrastination is like for students, including its dimensions, the conditions under which it occurs, and the thoughts and feelings to which it relates. The present study addresses this issue by providing an in-depth, phenomenological account of college students’ lived experiences of active procrastination.
Competing Conceptions on Procrastination’s Relation to Academic Success

One does not have to search extensively in order to find concerns about procrastination. It is common for needs-assessment research to report on students’ expression of concerns about such factors as procrastination and lack of motivation (e.g., Gallagher, Golin, & Kelleher, 1992). Similarly, a lack of time management strategies is an oft-cited reason for college students’ academic struggles (Kitsantas, Winsler, & Huie, 2008; Rachal, Daigle, & Rachal, 2007). The preponderance of research evidence also supports the idea that procrastination is harmful in terms of academics and motivation and thus should be reduced (for a review, see Steel, 2007). There is a countervailing argument, however, that some students do not see procrastination as harmful and do not seek to reduce it (e.g., Schraw et al., 2007). In this sense, a distinction exists between passive and active procrastination—that is, between avoidant and detrimental procrastination as opposed to intentional and beneficial procrastination. Both of these behaviors can be viewed in terms of their relations to academic outcomes, as described below.

Scholars and educators typically view procrastination as antithetical to academic success. Procrastination is commonly described as a behavior that “results in detrimental academic performance” (McGee et al., 1997, p. 890), and a large body of research evidence on undergraduate students’ performance supports this characterization. Researchers have reported a negative relation between procrastination and course grade in educational psychology (Klassen et al., 2008), human development (Corkin et al.,
Procrastinators are likely to receive low grades on both papers and exams (Fritzsche et al., 2003; Tice & Baumeister, 1997). Given this pattern, the negative relation between procrastination and overall grade-point average (GPA) is not unexpected (Fritzsche et al., 2003; Prohaska, Morrill, Iraida, & Perez, 2000; Rice et al., 2012; Rothblum et al., 1986). A likely explanation is that procrastinators, as compared with non-procrastinators, devote less time to their assignments and use less effective learning strategies when completing them (Howell & Watson, 2007; Wolters, 2003); in other words, both the quantity and the quality of the time invested toward academic activity are low (Astin, 1984).

On the other hand, scholars have reported that a certain type of procrastinator—an active procrastinator—is able to attain high academic performance. Considerations of a positive form of procrastination stem from the difficult-to-ignore tendency for students to describe themselves as thriving under pressure (Ferrari, 2001). In addition to preferring to work under pressure, active procrastinators make the intentional decision to delay, have the ability accomplish tasks by deadlines, and possess a sense of satisfaction with their results (Choi & Moran, 2009). Research evidence suggests that students who report the characteristics of active procrastination receive high grades. For undergraduate business students, active procrastination had a positive relation to both self-reported academic performance and GPA, but only the former relation was statistically significant (Choi & Moran, 2009). Among students from various majors at three Canadian universities, active procrastinators had higher GPAs than passive procrastinators (that is, the traditional form
of procrastination addressed in the above paragraph) but lower GPAs than non-
procrastinators, suggesting that one form of procrastination might be better than the other, 
but that no procrastination might be the best option in terms of academic outcomes (Chu & Choi, 2005). Corkin, Yu, and Lindt (2011) found that active procrastination predicted 
course grade in human development, but the analysis did not account for prior 
achievement. In sum, the research evidence suggests some benefit in terms of academic 
outcomes, although the mechanism by which these students achieve high grades (e.g., 
ability as opposed to the effectiveness of working under pressure) is unclear.

Other aspects suggest that active procrastination may be beneficial in terms of co-
existing with aspects of well-being that may create an environment that is conducive to 
academic success. For instance, active procrastination has positive relations to life 
satisfaction (Chu & Choi, 2005), emotional stability (Choi & Moran, 2009), and self-
efficacy (Corkin et al., 2011). It also has negative relations to stress and depression (Chu 
& Choi, 2005). In interviews and focus groups, students described various academic 
benefits of procrastination, including effective learning of relationships among concepts 
when studying in large blocks of time, the opportunity to reflect on a topic before 
working on it, and heightened creativity under pressure (Schraw et al., 2007). These 
components suggest that an active form of procrastination may have some academic 
benefits, although limitations to these benefits include a negative relation to the use of 
learning strategies and goal of increasing one’s knowledge (Corkin et al., 2011).
The procrastination experience varies for different students. Whereas many students suffer academically from having an unawareness of the amount of time and effort college academics will require (Wilson, 2004), it also seems that some students can predict what will be the minimally acceptable level of effort required to be successful. It is not entirely clear what allows these students to be successful in this manner, though one possibility is that they manage to attain the experience of flow, or optimal efficiency and immersion (Csikszentmihalyi, 1990), when they work under time constraints. In a simulated cramming experience, students who routinely crammed—that is, those who typically studied large amounts of information within a limited time period close to a deadline—were more likely to report experiencing a state of flow during the simulation than students who did not tend to cram (Brinthaupt & Shin, 2001). The researchers concluded that, for crammers, flow is a positive experience that “may bring some pleasure to their academic requirements” (p. 470). The construct of flow presents a compelling reason why students may choose to cram, yet it is counterbalanced by research that consistently addresses cramming as an ineffective and undesirable strategy for college students (e.g., Garcia, 1995; McIntyre & Munson, 2008; Zimmerman, 2002). To better understand the appeal of such behaviors and the larger phenomenon of which they may be a part, it is necessary to expound upon the nature and structure of what it is to actively procrastinate.

In terms of aspects of the college developmental experience that extend beyond the cognitive domain, there is also evidence that students who procrastinate excessively
tend to create stress for themselves that interferes with unburdened engagement in other activities (Rice et al., 2012). It is not clear whether this consequence differs for passive and active procrastinators, yet it is noteworthy that the conditions under which students direct their effort toward or away from studying may ultimately touch on more than just academics. In a grounded-theory study examining positive aspects of procrastination, college students described intentional procrastination as unfolding in such a way that “You’ve just got to tell yourself that procrastination is the right thing to do even though you know it isn’t” (Schraw et al., 2007, p. 20). Such statements indicated that active procrastination was more complex and, at times, contradictory, than it might appear on the surface, suggesting that more remains to be known about factors that student development practitioners should take into account when working with students who procrastinate in such a manner.

**College as a Context for Procrastination**

Procrastination in educational settings involves the postponement of academic activities such as reading, preparing for exams, or working on assignments or papers. This general tendency to delay academic work is highly prevalent among college students (Kachgal, Hansen, & Nutter, 2001). In terms of why students may choose to procrastinate in the college setting and benefit from doing so, it is helpful to examine features of incoming college students and the college environment that may encourage or reward procrastination. The generational approach—that is, looking at the characteristics of a
particular time-bound population—and the high-school transition provide two perspectives on procrastination in the context of college.

Students from the Millennial generation (i.e., those born between 1982 and 2002) currently comprise a large proportion of undergraduate enrollment (DeBard, 2004), and certain characteristics of today’s college-going population provide insight into why procrastination is so common. For students in this cohort, relationships with parents and peers are particularly meaningful and often are a competing priority in terms of where and how to spend one’s time (Lowery, 2004). Many young-adult college students also have the Millennial characteristic of a need for immediate gratification, that is, to attain instant results from impulsive or low-effort behaviors (Oblinger, 2003). Today’s context is one filled with technology-enhanced options at students’ fingertips. Playing videos games, watching streaming television and movies, and communicating (or simply following others) via social media offer numerous opportunities to postpone academic work in favor of more immediately enjoyable possibilities (Junco & Cole-Avent, 2008). The appeal of large projects, lengthy papers, and end-of-semester exams often pales in comparison to that of leisure or social experiences that provide more instantaneous rewards (Bell & Short, 2003). In addition, most students who come to college in the contemporary context are used to doing well and managing multiple activities (Levine & Dean, 2012). Students who continue to want it all in this sense may become overwhelmed and use procrastination as a way of not making decisions about academics. A distinctly
different approach, however, is likely to exist if certain students use procrastination as an intentional strategy to fit in schoolwork as one of multiple activities.

Particular features of high school and college environments suggest why active procrastination is becoming increasingly apparent. Research trends regarding high school grades and time devoted to various activities have revealed that the Millennial generation of students enters college after having received high grades with relatively low investments of time and effort (Sax, 2003). One reason underlying this cognitively undemanding route to success is that many students come to rely on quickly acquired surface-level learning because basic comprehension is sufficient to perform passably on the assessment tools used in many high school classrooms (Nist & Holschuh, 2005). Often accompanying the high-school-to-college transition are unrealistic expectations regarding the effort and strategies necessary for academic success in postsecondary education (Wilson, 2004). Students who describe themselves as never having had to study in high school tend to struggle with the transition to college, a setting that both presents more difficult content and demands greater amounts of self-regulation (Kidwell, 2005). Certainly many students come to college, procrastinate, study at the surface level, and perform poorly as a consequence; this description does not seem to encompass the experience of active procrastinators, however. Collins and Sims (2006) have noted that “many college students were simply good students in unchallenging high schools” (p. 207) who then transfer their habits to the college environment. This situation has typically been seen as an indicator of underpreparation for the demands of college. For
reasons that require further exploration, active procrastinators seem to transfer these habits yet still manage to be successful.

**The Present Study**

As compared with students who procrastinate out of academic avoidance and perform poorly, relatively less is known about the students who procrastinate willingly and without major academic consequences. The purpose of this phenomenological study was to explore the essence of active procrastination among college students, based on responses provided through study journals and interviews. Providing an in-depth look into themes existing across the experiences of seven college students, this qualitative study entered the procrastination debate with the intent of informing what is known about the active form of the behavior. Specifically, the following overarching research questions guided the study:

1. How do college students describe and perceive the experience of active procrastination?
2. What aspects contribute to making the choice to procrastinate?

**Research Design and Methods**

Active procrastination is a type of behavior that can at once seem contradictory and commonplace, something for which the intricacies have yet to be fully explored in the existing literature. Phenomenology is a qualitative methodology that focuses on enhancing understanding of a specific phenomenon by “portray[ing] the essence of the experience” (Moustakas, 1994, p. 13). I chose a phenomenological approach to guide the
in-depth considerations of active procrastinators’ experiences as a way of identifying shared structures that defined what it was to actively procrastinate.

Phenomenological research advances understanding of an experience by considering both individual cases and the shared “essential meanings” about the phenomenon that these accounts reveal (Moustakas, 1994, p. 68). Looking across experiences made it possible to identify themes of the experience that were common across all participants and thus characteristic of active procrastination, while the details of each student’s lived experience provided voice to factors that seemed to motivate, explain, or substantiate the behavior.

Participants, Sampling, and Recruitment

Participants in the study were seven undergraduate students at large, public university in the Midwestern United States. All were traditional-aged students between the ages of 19 and 22 who were enrolled in the same introductory anatomy class but represented a variety of academic majors. Three students were female and four were male; all were White. Table 4.1 provides information on the participants, arranged by the pseudonym selected by each student.
A faculty colleague in the anatomy department provided access to participants. I described to my colleague my interest in studying procrastination and requested permission to invite students from her class to participate in the study; so that students did not feel pressure to participate, they were ensured that there were no academic incentives for participation and that their professor would not know which students took part in the study. I made an announcement at the beginning of class toward the middle of spring semester 2013. I explained I was seeking students to take part in a study on procrastination that would involve writing study journals and participating in an interview. I followed up on the visit with an email to the class in which I outlined the stages of the study and specified the type of participant sought for the study, namely, students who would be able to share information about their first-hand experiences with procrastination in college. To participate, students who viewed themselves as having first-hand experiences with procrastination followed the link provided in the email to access the consent form and template for the initial study journal. The opportunity to earn

<table>
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<th>Pseudonym</th>
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<th>Age</th>
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<tr>
<td>Archer</td>
<td>Pharmaceutical Sciences (Neuroscience)</td>
<td>20</td>
<td>M</td>
</tr>
<tr>
<td>Catherine</td>
<td>Dental Hygiene (Dance)</td>
<td>19</td>
<td>F</td>
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<td>Ericka</td>
<td>Human Nutrition</td>
<td>21</td>
<td>F</td>
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<tr>
<td>Greg</td>
<td>Health Information Management and Systems (English)</td>
<td>21</td>
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<tr>
<td>Manny</td>
<td>Health Information Management and Systems</td>
<td>19</td>
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<tr>
<td>Socrates</td>
<td>Microbiology (History)</td>
<td>22</td>
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up to $35 on a gift card for an online retailer served as an incentive to compensate
students for their time. Specifically, students earned $5 for the initial entry, $5 for every
two biweekly entries (up to $15), a $5 bonus for writing all journal entries, and $10 for
participating in the interview.

Phenomenological research tends to include a relatively small number of
participants with whom the phenomenon is studied in depth; three to 10 participants is a
generally recommended range of participants for this type of in-depth research (Creswell,
2007; Smith & Eatough, 2007). In total, 12 self-identified procrastinators completed all
portions of the study. As my intent was for “all individuals studied [to] represent people
who have experienced the phenomenon” (Creswell, 2009, p. 128), I used criterion
sampling to identify participants from within the larger group of procrastinators. The
seven students whose recounted experiences reflected the intentional choice to
procrastinate became the focus of the present study.

Data Collection

I explored procrastination from different angles through online study journals
(including both an initial entry and six biweekly entries) and in-person, individual
interviews. The use of both study journals and interviews contributed to acquiring rich
data on the phenomenon explored in the study. Appendix A overviews the questions
asked in each stage.

Journals are methods through which individuals record autobiographic
information regarding events experienced in daily life. In phenomenological research,
journals are used to gather first-hand, narrative accounts of how individuals perceive their experiences (Smith & Eatough, 2007). Study journals, in particular, serve as reflective accounts of behaviors, thoughts, and feelings associated with studying (e.g., Evensen, Salisbury-Glennon, & Glenn, 2001).

Study journals in the present study took two forms. The purpose of the initial study journal entry was to provide an introduction of each student. Guided by five questions, students conveyed their typical perceptions of procrastination and described the demands of their spring semester as a whole. The biweekly study journals served to acquire students’ reflections on recent academic experiences. In six separate journal entries over a period of three to four weeks, each student reflected on behaviors, thoughts, and feelings associated with specific instances of procrastination across all their classes.

An individual interview with each student followed the completion of study journals. Students described a recent experience with procrastination in depth, elaborated upon excerpts from their study journals, and spoke of general attributes of procrastination in their lives. Each semi-structured interview lasted approximately 45 minutes. The semi-structured format provided shared parameters addressed by all interviews but also flexibility. “The interview [was] guided by the schedule rather than dictated by it,” making it possible to “to probe interesting areas that [arose] and … follow the participant’s interests or concerns” (Smith & Eatough, 2007, p. 42, emphasis in original). Each interview generally began and concluded with the same questions, whereas the
middle portion was unique for each student. For the middle portion of each interview, I read aloud excerpts from the journal entries, asking questions to prompt students to tell me more about the situation or statement, clarify meaning, model their original thought processes, or reflect on what they had experienced.

**Data Analysis**

I took an inductive approach to data interpretation in order to generate ideas, patterns, and perceptions from the perspective of the participant (Creswell, 2009). Students’ subjective realities in relation to procrastination were the determining factor in “unloosening” (Jones et al., 2006, p. 87) the data, allowing essential elements and their meanings to emerge from the data (Crotty, 1998; Jones et al., 2006). The particular inductive processes undertaken in this study aligned with those of phenomenology. I used the phenomenological data analysis approach most closely associated with Moustakas (1994), consisting of the four stages below. As described further below, I served as the primary reader and coder of the study journals and interview transcripts. A doctoral candidate in educational psychology served in the role of critical friend (Marshall & Rossman, 2010), providing a second reading of the data and review of the coding.

**Horizontalizing.** I began by reading through the study journals and interview transcripts, one participant at a time (Storey, 2007). Using the method of horizontalizing (Moustakas, 1994), I went “through the data…and highlight[ed] ‘significant statements,’ sentences, or quotes that provide an understanding of how the participants experienced the phenomenon” (Creswell, 2007, p. 61). I focused on notable elements as described by
students themselves, with the goal of remaining connected to the text and considering all aspects of participants’ experiences (Smith & Eatough, 2007).

**Formulating invariant constituents.** The next stage of analysis was to identify and name invariant constituents, that is, core components representing the structure of the phenomenon (Moustakas, 1994). I reduced the initially identified items in order to hone in on those which “contain[ed] a moment of the experience that [was] a necessary and sufficient constituent for understanding it” and, further, could be “abstract[ed] and label[ed]” (Moustakas, p. 120). These core components met the criterion of being invariant in that they were fundamentally unchanging and shared across participants. Even while the unique content of individuals’ stories varied, the focus was on underlying structures that were held in common (Jones, Torres, & Arminio, 2014).

**Clustering themes.** I organized invariant constituents from the previous stage into clusters to generate themes describing the essence of participants’ experiences with the phenomenon (Moustakas, 1994). Although themes were an important outcome of the analysis, the development process was equally important, for “it is through the process of finding, naming, and elaborating a theme that understanding of the phenomenon is heightened” (Jones et al. 2006, p. 89). The core themes fulfilled the criteria of being, on the one hand, focused in that they were few in number and, on the other hand, extensive in that the each represented a number of invariant constituents of the phenomenon (Moustakas, 1994). To provide a check on this process, I developed a basic cross-case
analysis matrix (Miles, Huberman, & Saldana, 2014) to consider the extent of the textual evidence, ensuring that each theme held up across all cases.

To contribute to the trustworthiness of research, a doctoral candidate at my institution served in the role of critical friend to offer a second reading and critique of how I had coded and interpreted the data (Marshall & Rossman, 2010). I provided the critical friend with a subset of approximately one-third of the uncoded data to read and review. Her review addressed both invariant constituents (specifically, the naming and application of codes) and core themes (specifically, the organization of codes into larger meaning units). We met to compare and contrast how each of us had approached these aspects, continuing in discussion until reaching consensus that the abstraction and organization of data reflected participants’ experiences.

**Developing the written description.** In the final stage of the phenomenological analysis, I brought the themes together as I wrote a composite description of the essence of active procrastination (Moustakas, 1994). Giving primary importance to the words of those who had direct experience with the phenomenon, the written description linked each theme to its invariant constituents and each constituent to one or more excerpts from the text (Storey, 2007).

**Trustworthiness of the Analysis**

Aspects of credibility and plausibility (definitions developed by Hammersley, 1990; as cited in Jones, Torres, & Arminio, 2006) were key components of the study’s trustworthiness. To enhance credibility (i.e., the ability to trust the researcher’s approach
and interpretations) in phenomenological research, it is important to acknowledge and—to the extent possible—set aside initial understandings and assumptions related to the topic of interest (van Manen, 1990, as cited in Jones, Torres, and Arminio, 2014). This process is known as the epoché (i.e., Greek word for suspension; Moustakas, 1994). The introduction and literature review of the present manuscript provide a summary of my understanding of the topic prior to undertaking the study. I also maintained a reflexive research journal (Lincoln & Guba, 1985) in which I reflected upon my initial understandings of procrastination in the college setting, my identity as a researcher, and the decisions I made about the data. Having bracketed these pre-conceptions (Moustakas), I found myself providing first-person explanations of active procrastination as experienced by those who lived it, as reflected in the naming of codes and themes.

The previously mentioned interactions with a critical friend served to ensure plausibility (i.e., the likelihood of the interpretations’ following from the data). Specifically, this individual ensured that the understandings I reached were based on the data itself rather than presuppositions or desired outcomes (Creswell, 2007; Marshall & Rossman, 2010). Including this step acknowledged the principle in phenomenological research that one “must not formulate meanings which have no connection with the data” (Colaizzi, 1978, p. 59). Triangulation of the data through multiple sources also enhanced the plausibility of the interpretations (Creswell, 2005). The collection of multiple sources protected the quality of the data by allowing each participant to record overall thoughts at the outset, document and reflect on specific experiences over the course of a month, and
supplement the written account with an interview for the purposes of elaboration and confirmation of understanding.

**Findings**

Findings revealed three major themes representing the essence of active procrastination. As an aspect of the benefits involved in each theme, there was also a counterbalancing negative component either as a present reality or imagined possible concern. Table 4.2 provides an overview of major themes, codes, and exemplary quotes.
### Table 4.2

**Major Themes, Codes, and Exemplary Quotes**

<table>
<thead>
<tr>
<th>I’m Good At It</th>
<th>Being Efficient Doesn’t Always Mean I Feel Great or Learn a Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Work and Learn Effectively Close to Deadline</td>
<td>Procrastination causes stress</td>
</tr>
<tr>
<td>I just work well this way</td>
<td>“I felt very stressed and rushed when completing the assignments, which led to an overall more stressful experience than I needed to have.”</td>
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<tr>
<td>Inefficient when I have lots of time before deadline</td>
<td>“If I did not procrastinate I would start preparing for exams earlier and have a better grasp of material rather than…relying on my short-term memory to get me by.”</td>
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<tr>
<td>More efficient with less time (fewer distractions, greater ability to focus)</td>
<td>“I end up wasting some of that time.”</td>
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<tr>
<td>Under pressure is how I learn best</td>
<td>“If it’s due the next day, I can usually sit down and focus just on my paper, and usually get it done really efficiently.”</td>
</tr>
<tr>
<td>I get my best writing literally a couple of days beforehand.</td>
<td>“I felt very stressed and rushed when completing the assignments, which led to an overall more stressful experience than I needed to have.”</td>
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<tr>
<th>I’ve Learned I Can</th>
<th>But This System May Not Always Work</th>
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<tbody>
<tr>
<td>I Know I Can Respond to Academic Requirements with Procrastination</td>
<td>Plans don’t always work out</td>
</tr>
<tr>
<td>Overall ability</td>
<td>“So it was like, ’yeah, that’s not happening.’”</td>
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<tr>
<td>I’ve done a lot of them [papers] and I know how long they take.</td>
<td>I know I can’t keep doing this forever</td>
</tr>
<tr>
<td>“This experience is okay because I have a plan and I believe it will help me in the end.”</td>
<td>“I think in the future it’s probably gonna backfire on me sometime.”</td>
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<td>“High school was just so easy that I could get away with it.”</td>
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<tr>
<th>It’s Worth It</th>
<th>But I Know I Could Still Do Better</th>
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</thead>
<tbody>
<tr>
<td>I get positive academic outcomes</td>
<td>“I did decent…; however, I think I could have done a little better if I had started studying earlier.”</td>
</tr>
<tr>
<td>I do not think that my procrastination had any effect on the grade that I will receive.</td>
<td>“Where there’s trouble is where you take that justification and apply it to another course where that doesn’t work.”</td>
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<tr>
<td>Positive academic outcomes reinforce the behavior</td>
<td>I need to be careful not to overgeneralize</td>
</tr>
<tr>
<td>“When I do finally do them I actually get good grades and the project looks pretty good. So then I think that I can just procrastinate all the time.”</td>
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<table>
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<tr>
<th>It’s Worth It in Terms of Social Outcomes</th>
<th>But What I’m Procrastinating Is on the Back of My Mind</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allows me to achieve balanced life</td>
<td>“I did decent…; however, I think I could have done a little better if I had started studying earlier.”</td>
</tr>
<tr>
<td>I’d say a little bit of procrastination is good. You’ve gotta have fun sometimes.”</td>
<td>“Where there’s trouble is where you take that justification and apply it to another course where that doesn’t work.”</td>
</tr>
<tr>
<td>Allows me to enjoy meaningful experiences</td>
<td>Can’t enjoy other activities as much</td>
</tr>
<tr>
<td>“Some of my favorite memories—whether it’s going out or hanging out with my friends—it’s been from procrastination.”</td>
<td>Upset with self/guilt</td>
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<tr>
<td>“Typically I feel a kind of weird sense of guilt.”</td>
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I'm Good at It

A major theme of active procrastination was that students viewed themselves as being successful procrastinators; procrastination was something at which they were effective. This theme involved a general conviction that students could work well following a period of procrastination. More specifically, it reflected an intense contrast between efficiency under pressure and inefficiency without pressure and the perception that procrastination enhanced academic work. As a limitation to these benefits, however, students also described the perception that procrastination could produce stress or reduce the quality of learning.

I work and learn effectively close to the deadline. Overall, students expressed awareness of their capabilities as procrastinators. Rather than shame or reluctance in discussing procrastination, there was a keen sense that it was an effective strategy. Students were aware of their ability to successfully procrastinate in academics, explaining that “I can usually get by doing things last minute,” “I feel confident that I can get it done during the last minute” and simply, “I’m very good at procrastination.” This knowledge motivated procrastination to continue. As Ericka summarized, “I’ve come to the conclusion that I work better under procrastination circumstances rather than spreading the work out over time, so this is what I always do.”

Students felt that they were inefficient when they had a large amount of time in which to complete an assignment. When they had ample time before a deadline, they would usually be distracted by a variety of forms of media—naming examples such as
flipping through channels, browsing websites, shopping online, playing fantasy sports, and using social media—“instead of actually studying, and it’s just not as efficient.” Archer summed up the typical type of situation experienced by active procrastinators, indicating that the lack of productive time made it not very worthwhile to attempt to study or work on assignments in advance. He explained:

If I’m working on something and it’s not due immediately, then I’ll have more excuses. Say I’m typing up a paper but it doesn’t really need to get done that night, so I can go check the Internet for a little bit, chat on facebook, do whatever, maybe go downstairs and watch an episode of tv. So there’s not a sense of urgency about it. I feel like I’m halfway devoting my time to it, but I’m halfway really not, so I end up wasting some of that time.

Rather than risk being inefficient, students would choose to delay their activities until a later point when they knew they would focus and fill a larger proportion of their dedicated study time with actual studying.

The concept of wasting time—whether by being inefficient or by not having content be fresh in one’s mind—largely explained why working ahead of time was undesirable. Students reported that “it’s hard to concentrate if I don’t actually have to do it” or “hard to force myself to stay focused” when aware of the large amount of time remaining before a deadline. In addition to concerns about lack of efficiency, there were concerns that studying in advance might cause one to forget what was learned and thus not be worth the effort (e.g., “If I work on things too far in advance, I risk forgetting a
These two sources were unique from one another, yet both exemplified why working in advance was unappealing due to its ineffectiveness.

Conversely, what made procrastination appealing was the high efficiency of working under pressure, due to having fewer distractions and a greater ability to focus. Socrates described the common case that “I don’t study very well if I don’t have to. I have to wait to the last minute ‘til I can actually get a lot of work done on it and focus on it.” For instance, when reflecting on writing the introduction to his thesis, Socrates noted that “since it’s due tomorrow, I’m finally able to start putting some serious effort and concentration into getting it done.” Pressure in this sense was desirable. Explained Ericka, “the added pressure that the assignment is due or I have a big test very soon forces me to use my time more efficiently.” Procrastination could thus be positive, offered Archer, if “you just want to put it off so that you will work more effectively in the future.”

More than just an optimal use of time, active procrastination involved a sense of optimal learning. Supporting the view of working better under pressure was the perception of effective studying or writing after procrastination had taken place and limited time remained. Reflecting on having studied for an anatomy exam several hours before it took place, Taylor explained how the method worked for her because the material was “fresh in your mind…I feel I could have done it before, but I’m not sure if the information would stick as much.” Archer was aware of the common suggestion to
study bit by bit (i.e., distributed learning) but explained how all-at-once (i.e., massed) studying was his preferred method:

They always say that it’s better to do in small chunks, but I personally think I can absorb a good amount information at one time, so it’s like, why not? If you feel really motivated at a certain moment, you’ll probably remember it better if you have your full focus on it, rather than trying to do a little bit every day.

In terms of papers, Greg would “find that I get my best writing literally a couple of days beforehand, when I have to just force myself to sit down at the computer and crack out a couple pages.” In numerous accounts, students used the words “better” or “best”; procrastination was not a last-ditch effort or something resorted to when no time remained. Ericka summarized, “when I procrastinate I write better, I remember things better. So far as quality of schoolwork, I think that I do better when I procrastinate.” As a result, she, like the other students, perceived notable academic benefits in the choice to procrastinate.

**But being efficient doesn’t always mean I feel great or learn a lot.** While students perceived high efficiency and effectiveness when working under pressure, the experience of arriving at these outcomes was not particularly enjoyable. Although she was a proponent of what procrastination allowed her to attain academically, Ericka also discussed at length how she experienced high levels of stress and physiological discomfort during her last-minute work; “it’s just the flipside of the emotional side that is
not enhanced,” she explained. In the case of an anatomy course where she prepared the afternoon leading up to the evening’s exam:

I kept looking at the clock. I kind of felt anxious the whole time. I was mentally trying to space everything out while I was studying, because I kept looking at the clock and was like, “Oh, I need to go through this, this section in so many minutes.” And I kind of felt anxious like, “I only have a short amount of time to go through a lot of material.”

What is more, her anxiety about procrastination followed her. Even in the interview situation, she described how “I kind of feel tensed up right now thinking about how stressed out I’m gonna be [during exam week].” As summarized by Manny, “procrastination makes things way more stressful than they need to be. There’s no cutting it any other way.”

It was also the case, however, that stress was not altogether a bad thing in students’ eyes. Although they did not necessarily like the feeling of stress, students also described the stress or pressure itself as the aspect that motivated them to complete work. As Greg put it, “as deadlines draw near I start to stress out until I get motivated enough to complete my assignments.” For students who were not motivated by the assignment itself, the strategy of procrastination could allow pressure to build up so as to tip the balance in favor of putting in the work—the idea of “getting really stressed out to the point where it’s easier to not procrastinate.” Pressure’s ability to serve as an instigator of
work was a main reason why the potentially negative aspects of stress did not outweigh the perceived benefits of procrastination.

As a counterpoint to situations in which students saw themselves as achieving higher quality learning and more cohesive writing under pressure, there were still marked examples of experiencing a limit on the amount of learning that occurred. Among students, there was an admitted tendency to engage in “cramming the night before and relying on my short-term memory to get me by” but no mention of long-term learning or heightened understanding. For instance, Taylor knew she could get the information in her head quickly and recount it on an exam shortly thereafter, but she also recognized that “because the exams aren’t cumulative, you don’t exactly have to remember everything by the end…so maybe that’s something they should fix.”

With papers, there was a sense of doing what was necessary to get by. Procrastination could get the job done because “you can still b.s. it. You can still kind of just come up with something to say about it. You can just get it done and over with.” Greg described procrastination as an effective writing strategy because he had the ability “to cut to the chase and give them [professors] what they want out of the paper,” but doing so did not necessarily entail that his writing skills or knowledge of a subject were growing. In Manny’s case, he could write quickly and accomplish the basic goals of his paper, but he also conceded that “I am rushed and put together a less cohesive and weaker argument in my papers.” Overall, while students perceived procrastination as
offering benefits of efficiency and focused learning, there were limitations to the extent and richness of the learning processes taking place.

**I’ve Learned I Can**

Through experience, active procrastinators had learned that there was something about them in relation to their circumstances that made procrastination a viable response to academic requirements. Part of the intentional decision to procrastinate was the fact that students were consciously aware of their abilities to procrastinate, often in relation to overall ability or intelligence. Over time, students had developed a system for procrastinating. Students honed in on high school experiences as having first made them aware of this capability. As a counterbalance to incorporating procrastination into academic planning, however, students identified both past instances and future possibilities of procrastination not going according to plan.

**I know I can respond to academic requirements with procrastination.** Students attributed much of their procrastination to the ability to easily complete academic requirements. With neither conceit nor apology, students indicated matter-of-factly that “I know I’m intelligent” or spoke of being “kind of smarter than most naturally.” Manny recognized he procrastinated a great deal but that “my intellectual ability saves me at times because I can catch up or retain more information than most of my peers. It is this ability I have to thank for a respectable GPA.” Viewing oneself as intelligent was not just an explanation for why procrastination did not harm students but also a reason to engage in it in the first place. Catherine admitted that “school’s really always been easy for me” and went on
to identify the connection to her procrastination: “So you can feel like, ‘I’ll put that off. I’m smart enough. I can catch up to that.’” In short, students chose to procrastinate because they were confident they were capable of meeting academic demands.

Students seemed to have figured out a system for knowing exactly what was required. Often the amount of work that was required was just the amount they were willing to do, and students usually could gauge this amount based on prior experiences. As a history minor, Socrates had plenty of practice with writing assignments and had honed his skills to the extent that “I’ve gotten very good at whipping out a 10-page history research paper in a night.” He found himself “definitely always procrastinating” on those types of assignments “just because I’ve done a lot of them and I know how long they take.” Similarly, as an English minor, Greg had worked out a system for how much time to devote, explaining his estimates were based on how “I’ve taken so many English classes at this point that I can get a general sense of what they’re looking for in the paper.”

Insight into what was required of them allowed students to incorporate procrastination into their academic planning. Students consistently identified a sense of intention and purposefulness to their procrastination. They defined procrastination as “deliberately putting off doing a time sensitive task until the last minute” and expressed awareness of the decision to procrastinate (e.g., “I put off studying for both of my exams on purpose”). Catherine outlined her particular method as follows:
I plan everything out in the week, and I know it’s due. And then I’m like, “Okay, so I have this much time, and I can wait up until this last minute.” And then finally it’s like, “Okay, I’m here [in the plan]. Now I need to do it.” And then I’ll do it.

Speaking in multiple occasions in her study journals of delaying academic work, Taylor calmly explained “the reason I am allowing this is because I will be able to catch up on these things over spring break” and again “this experience is okay because I have a plan and I believe it will help me in the end.” Active procrastination was thus conscious and planned.

Students identified high school as a time in their lives when they began to view themselves as intelligent in relation to their peers and in relation to the academic demands upon them. High school revealed to students that they could “get by quite easily by pushing everything off,” as Manny put it. It was essentially a practice ground for developing skills at being a successful procrastinator; students could look back and recognize “I actually got really good at procrastinating in high school.” Catherine exemplified how high school set the expectation that procrastination lacked negative repercussions:

In high school, I used to procrastinate a lot, and even if I waited ‘til the last minute, I normally got a good grade. So that let me know I can wait ‘til the last minute, and I can just do it again and again, and nothing bad is gonna happen. I’ll turn it in; I’ll get a good grade for it, and everything’s gonna be okay.

Students carried over procrastination tendencies to college, and they often were successful. College was a different environment, but often not strikingly different enough that students had a need to stop procrastinating. As Socrates evaluated the shift, “high school was just so
easy that I could get away with it. And college, I kind of had to buckle down a little more, but I guess that I’m still getting away with it.”

**But this system may not always work.** Students often planned to procrastinate with the expectation that they would get the opportunity to work on academic activities later. This was not always the case, however. Taylor, who described at length her plans to study over spring break, presented a clear case of procrastination not going according to plan. One change or interruption after another kept coming up, leaving less time than desired remaining. For instance, she was going to study at the hotel “but they didn’t have wi-fi. Well, they did, but you had to pay for it. So I was like, ‘I’m not gonna pay for that!’ It was $10 [per day]. So it was like, ‘yeah, that’s not happening.’” Then she planned to study on the ride back to campus, but it was too dark to do so. Greg also had counted on working over spring break but found that “because no one else is doing anything productive in spring break, it’s really hard to look around and force yourself to do all this school work.” Students also presented occasional examples of hoping to do work at the last minute but later recounting “I did not feel ready for the exam at all” or “I did not feel prepared” because they underestimated the amount of time necessary or found the material more difficult than expected. In sum, active procrastination involved the expectation of future time availability and working conditions that did not always transpire as planned.

Despite minor setbacks from time to time, students could still “usually make up for it,” providing no pressing need to stop procrastinating so long as the types of academic demands they faced remained the same. In anticipating more difficult academic
demands to come, however, students voiced concern that procrastination would not be effective forever. “I would say it’s working pretty well overall for now,” Taylor said of procrastination. She then contrasted her undergraduate experience with her hoped-for future enrollment in a graduate nursing program, where “it might be a whole different story.” Catherine, though pleased with how her outcomes had turned out thus far in college, recognized, “I think in the future it’s probably gonna backfire on me sometime. I have a feeling that it will.” Socrates summed up the sense that procrastination had often worked and might continue to work, but that this could not be counted on to always continue. He admitted he faced a balancing act in that “procrastination is something I know that I can usually get away with, although it always has the potential to come back and bite me,” particularly as he advanced in his major and worked on his pre-medicine specialization.

**It’s Worth It**

Students perceived procrastination as presenting major benefits in terms of the academic and social outcomes they were able to achieve. In terms of academic outcomes, students often were able to receive high grades on procrastinated work. The reinforcement offered by these high grades encouraged procrastination to continue. On the other hand, students hoped to be doing even better, striving for not just As but high As. They also recognized that it was risky to expect procrastination to lead to success in all classes; the occasional failure, though unwelcome, could provide insight into when procrastination was appropriate or inappropriate. As for social outcomes, students viewed procrastination as a tool
that enabled them to achieve their desired college experience—one that involved balance and created life-long memories. Limiting the enjoyment, however, thoughts of what students had to work on lingered in the back of their minds.

**It's worth it in terms of academic outcomes.** Students expressed that procrastination “usually doesn’t have a large impact on my grade” or “I still get the same grades when I procrastinate,” offering multiple examples of receiving As on papers, exams, and other assignments completed within days, or even hours, of the deadline. The process of working under pressure and receiving a positive outcome reinforced the perception that procrastination was an effective strategy, increasing the likelihood that students would choose to procrastinate in the future. Students were highly attuned to this fact. Describing the positive feeling of getting a high grade, Catherine explained how “I’m like, ‘That really works. I can do that again.’ So, I think it just reinforces my thought process of, ‘Oh, procrastination is okay!’ in these instances.” Greg identified his repeated success procrastinating as underlying his continuation of that approach. He reasoned, “I’ve done tons of papers, and I’ve always put ‘em off ‘til the very last minute, but I still usually get, at worst, a 90, … so if the method works or the process works, why fix it?” Other students echoed the sense that after getting A after A on assignments, they would think to themselves “What’s the point in changing … when I know I can do this and it works for me?”

It was not necessarily the case that procrastination worked in all situations, yet the existence of many positive outcomes outweighed the occasional negative outcome. With the balance tipped in favor of procrastination, there was reason to repeat the behavior. After a
busy week, Manny found himself with a poor grade on one assignment but was successful in “two other attempts to cram and complete the assignments last minute and still receive good grades.” He reflected on the net gain by indicating, “it is events like this, where procrastination does not deter my success, that allows me to justify and continue my procrastinatory behavior.”

**But I Know I Could Still Do Better**

Students could look at their academic lives and perceive that “luckily, I’m able to get by with procrastinated work” while in the same breath recognizing “it most certainly is not the quality of work I’m *able* to produce.” Students did well enough but knew they were capable of more. They expressed a mild sense of regretful speculation, yet it was often not so big of a concern to instigate behavioral change. Socrates, estimating that he got between a B and an A on an anatomy exam, remarked:

>I kind of wish that I would have studied a little bit more, especially because if I had put a little bit more time into it, I know I would have gotten an A on it for sure. That’s how I feel about a lot of exams, actually. If I put in my normal minimal work, I can usually get a B on it, but if I put in a little bit more effort, then I feel like I could get an A.

Students knew they could potentially produce better work but were not convinced the effort would be worth it. “It would always be nice to have done better” said Ericka or “have a little bit higher GPA” stated Manny, but crossing the distance between what they had attained and could potentially attain would require more work. Because they were
already doing okay, the extra work would “probably not [make] a whole big difference” anyway. Good might not be great, but it usually was acceptable.

The other major relation of procrastination to academic outcomes was that doing well in academics tended to justify procrastination. There was some danger of falling into this pattern completely and overgeneralizing one success to the ability to always be successful. Manny expressed his insight into this situation, evaluating the tension as follows:

Where there’s trouble is where you take that justification and apply it to another course where that doesn’t work. … It’s experiences like that, when the procrastination works for you, that it carries over and you can just fly it…., but where you get the real trouble is when that doesn’t work.

Essentially, the pattern of positive reinforcement could sometimes become so strong that students would procrastinate in all situations as a matter of habit. Although it was rare and unexpected, every so often students might do “absolutely terrible,” which served as a call to reevaluate their approach.

Because active procrastination was an intentional behavior, there was the potential for students to change their behavior if it stopped working. When circumstances called for it, students could distinguish between classes where they could and could not get away with procrastination. Greg recounted having drawn a memorable lesson from failing an exam, which translated into ceasing his procrastination in that class in particular. He described in his journals his decision to work ahead in anatomy because he had failed a midterm and “cannot have a repeat performance like that.” He confirmed in
his interview that he had stayed ahead in his studying for the class and was doing markedly better. He selectively changed his procrastination tendencies, consistently working ahead in anatomy but continuing to procrastinate in other classes where it did not impact his grades. The balance was different for each student. Manny, speaking of how procrastination was fine for him in anatomy, offered the following contrast: “in biology, that doesn’t work for me. I have to read.” Students were not willing to give up procrastination altogether. In those classes where they could procrastinate, they continued to do so, yet they had the ability to reign in procrastination and intentionally choose another way of directing time when necessary.

**It’s worth it in terms of social outcomes.** Procrastination afforded positive outcomes in other aspects of life. Students expressed having a sense of balance and richer social lives and relationships as a result of their procrastination. They engaged in procrastination because it enabled them to achieve other important goals in the time they spent not working on academics. As Archer described it, “being a really perfect student and never having any fun” was not the end goal of college; instead, “you have to find the balance that works for you.” In order to attain this balance, delaying academics was necessary, for procrastination was something that “gives me more time to spend with my life.”

When procrastinating, students emphasized that their time was not wasted; it was often spent on maintaining ties back home or engaging in special opportunities on or near campus. Students provided examples of going home for the weekend and focusing that time on friends and family they did not have the opportunity to see on a regular basis. Special occasions, such
as a sibling’s senior night or a basketball game at one’s old high school, were also important. As Ericka phrased it, “I will not have the opportunity to go back home for a while so I wanted to spend the opportunity that I had hanging out with my family instead of doing homework.” Unique opportunities that did not involve going home, like volunteering at special events hosted in the city where the university was located, were also viewed as meaningful and worthwhile uses of time. Students did not regret spending their time in these ways. As Socrates wrote in regard to a lab report he delayed, “I know I should not have much trouble whipping it out all at once, and it will be worth it, because of the things I did earlier instead.”

Students directly tied the choice to delay academics to the opportunity to engage in other activities. Students might not get to the social aspects if they started with schoolwork, so they made sure to fit in the social opportunities first. They could then look back and say, “I got a decent grade on it, and I was able to do all the other things, as well. Whereas if I’d started earlier I might not have been able to hang out with my friends.” In the end, the balance often swung in favor of the meaningful social experiences such that, if forced to rank the two, “feeling good about getting stuff done is lower than feeling good about doing social things with my friends.” Why was the value so high? As Manny summarized it, “Some of my best times so far in college have been from procrastination. They’re the memories that are priceless. No one’s ever gonna be able to take that from you.”

**But what I’m procrastinating is on the back of my mind.** Although procrastination allowed students to have rich social lives and meaningful interactions, its negative side tended to taint these experiences somewhat. Whether a paper, test, or assignment, whatever students
were delaying was never completely gone; it was merely pushed to the back of their minds and sometimes would emerge in the form of worry or guilt.

Archer, reflecting back on participation in volunteer activities for a sports event that had occupied his weekend, stated “I actually had a lot of fun this weekend. There was just this little nagging in the back of my mind the whole time about exams.” Similarly, Greg often would feel that “even though I am out having a good time with my friends, in the back of my mind I’m just like, ‘Okay, I should really be working on this project’ or ‘This is gonna probably hurt me somewhere down the road, that I’m not starting these papers.’” Such thoughts reflected the common experience among students that “sometimes it’s like I really know that I need to get something done in the back of my mind, so I can’t fully enjoy whatever I’m doing.”

At times, the worry was turned inward, and students felt a sense of disappointment with themselves. Students were not so completely confident in themselves that they would not sometimes look at the work piling up and feel overwhelmed. For instance, Socrates shared, “there are experiences where I put off studying so long, I look at all the stuff and I just feel panicked and really angry with myself that I put it off so long.” Archer explained another commonly described sensation: “typically, I feel a kind of weird sense of guilt.” When his friends from home paid an unexpected visit one weekend when he had two English paper drafts due, Greg “occasionally felt … guiltiness for doing other things when I could have very well been typing up these papers.” Taken within the full context of their experiences, however, the
worry or guilt produced by putting off academics was ultimately bearable. These thoughts and feeling were able to be suppressed or viewed as worth it in terms of the activities students could otherwise enjoy.

**Discussion**

In this study, undergraduate students reflected upon and described the essence of active procrastination. Students revealed that they intentionally postponed academic work because they ascribed a high level of efficiency and effectiveness to this approach, had learned how to systematically procrastinate through previous educational experiences, and could attain worthwhile outcomes in terms of both academic results and personally fulfilling experiences. As an element of each of these components, however, students also articulated a notable flipside. First, the forced efficiency of completing schoolwork under pressure could lead to high stress and surface-level engagement in learning. Second, the system of procrastination did not always go as anticipated and was seen as losing some of its effectiveness under more challenging academic demands. Third, the outcomes achieved by procrastination could be tainted by less-than-desired grades or intrusive thoughts. The recognition of a flipside revealed that students did not have unquestioning allegiance to procrastination. Still, the flipside was not so great of a deterrent as to fully reverse the tendency to procrastinate or outweigh the overall positive view on what it enabled students to achieve.

In terms of the conceptualization of active procrastination, students’ lived experiences provided both confirmation and qualification of the construct’s previous
definition. One component of active procrastination is the preference for pressure (Choi & Moran, 2009; Chu & Choi, 2005). Students in the present study sought to create pressure that would direct their attention toward assignments that themselves were unmotivating, similar to how Brinthaupt and Shin (2001) surmised that cramming increases the level of challenge and interest associated with a task. This dynamic may also explain why students in the present study were particularly likely to engage in procrastination when aware of their high ability relative to the difficulty level of an educational context. In most cases, academics were relatively easy, and students preferred pressure in the sense that it helped decrease distractions and increase the ability to focus, two components typically associated with flow-like experiences (e.g., Seo, 2011). What the students’ preference for pressure lacked, however, was the sense of being enjoyable for its own sake, distinguishing it from the construct of flow. Moreover, the tendency to work under pressure included negative physiological, cognitive, and affective elements—seen in terms of extra stress, worry, and guilt.

Despite these drawbacks, working under pressure seemed necessary. Students described it as the only way they could force themselves to concentrate, particularly because technology was otherwise an irresistible distractor that offered immediate gratification (Lavoie & Pychyl, 2001; Wilson, 2004). As compared with the behavior of students who procrastinate purely out of avoidance, active procrastinators’ creation of high-pressure work periods points to a higher degree of planning and self-regulation. On the other hand, it is delay of gratification—rather than delay of academics—that scholars
typically regard as being reflective of self-regulation (Bembenutty, Karabenick, McKeachie, & Lin, 1998; Bembenutty, 2011). Whether choosing to create pressure for oneself in this manner represents a form of self-regulation unique to active procrastination (Mortensen & Miller, 2012) or the lack of self-control typically associated with passive procrastination (Steel, 2007) is likely to remain a subject of debate.

In terms of another major attribute of active procrastination, the present study provided an explanation of why students made the intentional decision to delay (Choi & Moran, 2009; Chu & Choi, 2005). Findings indicated students’ choices to procrastinate involved high awareness of the benefits afforded by delaying (e.g., completing work with minimal time, receiving acceptable grades, freeing up time for other activities). Moreover, students incorporated the decision to delay into their academic planning and expressed confidence in the system of procrastination they had developed. In terms of instrumentation, most scholars have approached active procrastination as a domain-general tendency, examining it in terms of overall tendencies seeming to exist at the level of traits or personality characteristics (Cao, 2012; Choi & Moran, 2009; Chu & Choi, 2005). In the present study, students indicated that although some general aspects (e.g., perceived intelligence) underlay their procrastination, certain contextualized aspects (e.g., course attributes) were equally important to their decisions. The importance of context makes sense when recalling that active procrastination is an intentional strategy and thus likely to be reliant on factors that students perceive as either giving the green light to procrastination or offering caution in regard to its use. In continued exploration of this
construct, the consideration of context is likely to reveal further nuance in regard to students’ decisions to delay.

The contextual features relevant to active procrastination were not solely academic in nature. Students in the present study espoused—and sought to coordinate—multiple academic and social goals (Dodge, Asher, & Parkhurst, 1989; Dowson & McInerney, 2003). Coordinating multiple goals can be complex, as students’ goals “may interact in conflicting, converging, or compensating ways” (Dowson & McInerney, 2003, p. 108). In its ideal state, active procrastination allowed students to prioritize and balance activities. Daily choices satisfied short-term goals, which in turn satisfied overarching goals such as social affiliation or work avoidance (Anderman, 1999; Dowson & McInerney, 2003). Where drawbacks came in was when goals were at odds or the context did not allow students to accomplish a goal.

The extent to which students achieve their academic goals is an important feature of the existing definition of active procrastination, which indicates that students are able to meet deadlines and attain satisfying outcomes (Choi & Moran, 2009; Chu & Choi, 2005). Findings of the present study supported this conceptualization: students gave no indication of missing deadlines, and they spoke of receiving acceptably high grades that reinforced their behavior. What has not previously been clear in the literature, however, was whether active procrastinators were performing at their best, as opposed to passably well. Results of the present study showed that active procrastination, rather than being a completely positive and desirable tendency, could involve trade-offs such as not reaching
the full extent of one’s academic capabilities. Findings also raised concern about the level of learning occurring when students worked within a limited timeframe; sometimes they specifically articulated these concerns, whereas other times a lack of learning seemed to exist underneath the surface of students’ discussions of being able to “b.s.” work or produce exactly what instructors were seeking. The lack of optimal learning offers further insight into Corkin and her colleagues’ (2011) finding that statistically significant negative relations existed between active procrastination and both cognitive strategies and the goal of increasing one’s learning. When it comes to active procrastination, it appears that the level of learning that occurs may reflect adequate but not wholly satisfying outcomes—students may receive acceptable grades yet fail to reach their academic potential or engage in the fullness of the college learning experience.

The scholarly literature indicates that a reliance on strategies that worked in high school underlies students’ struggles with the transition to college (Cole, Goetz, & Willson, 2000; Cukras, 2006). The phenomenon of active procrastination, however, seems to occur for students who manage to successfully carry over procrastination tendencies from high school. Students in the present study procrastinated because they could; the educational context reinforced and rewarded it, offering little reason for students to change. Active procrastination appeared to be a learned behavior. Students perceived environmental cues—such as academic requirements that appeared easy or could be achieved close to a deadline—and took this information into account when planning their behavior. That last-minute studying was reinforced by grades that were
acceptably high suggests that those who create educational contexts may share in the responsibility for active procrastination’s becoming commonplace. This aspect questions the degree to which learning and cognitive growth are typically taking place in college (Arum & Roska, 2011; cf. Astin, 2011), particularly for high-ability students, or how well the educational system helps students articulate and appreciate the purposes of college.

Ultimately, college is about more than simply studying and going to classes. Active procrastinators might be seen as having made this recognition to a greater extent than students for whom college is either all work or all play. Students in the present study were aware of their range of goals and relative values (Anderman, 1999). They recognized the instrumentality of active procrastination as something that allowed them to enjoy leisure and recreational experiences without major drawbacks in terms of academic outcomes. Despite what students could gain by procrastinating, there were notable trade-offs in terms of threats to physiological or emotional well-being. Although Choi and Moran’s (2009) study articulating the construct of active procrastination emphasized its connections to emotional stability and life satisfaction, the present study revealed the complexity of these aspects. Students in the study exhibited insight into their choices and associated drawbacks that suggested high resilience and self-awareness, yet it seems important not to overlook the role of emotional challenges as part of the holistic experience of active procrastination.
Implications for Practice

This exploration of the essence of active procrastination offers various implications for educational interventions related to college students’ engagement in learning. Often, students perceived that an increase in effort would have led to even higher grades; the question that remained was whether this additional effort was worth it. To the extent that active procrastination may entail lack of meaningful or long-term learning, practical implications may involve developing opportunities for increased cognitive challenge and engaging learning experiences, whether this means advising students into challenging courses or providing co-curricular opportunities to extend learning beyond the classroom. Instructors can strive to create relevant assessments and participatory classroom environments (e.g., Learning Partnerships Model, Baxter Magolda, 1999; Autonomy-Supportive Teaching, Black & Deci, 2000) that go beyond “get[ting] it done and over with” or providing “what [professors] want.” From the standpoint of development, the key is not to encourage effort for effort’s sake (or even for the sake of a grade) but rather for the cognitive benefits it can offer (Siegle et al., 2009). Such benefits can include not only the acquisition of concrete knowledge but also complex ways of thinking.

This study revealed active procrastinators’ adaptability; when courses were sufficiently demanding, students indicated they could adapt their strategies and reduce procrastination, even if this first entailed facing failure. Counseling and advising centers need to be prepared to support active procrastinators through this transition. The
realization that low effort is not sufficient can challenge students’ academic self-concept (Jackman, Wilson, Seaton, & Craven, 2011), particularly if students are accustomed to relying on a combination of high ability and low effort (Covington & Omelich, 1979). Ideally, the focus will be on viewing intellectual effort as a natural part of demanding subject areas and cognitive growth, rather than an indictment of students who can no longer rely on ability (Siegle et al., 2009).

Some scholars have suggested that teaching and advising practices should support intentional procrastination, indicating that this approach could both increase efficiency and decrease the negative affect that typically accompanies procrastination (Schraw et al., 2007; Vacha & McBride, 1993). The present study revealed that it may still be important to encourage alternate behaviors when the context calls for it by, for instance, helping students distinguish between situations when they can and cannot expect to be able to procrastinate. Relevant factors will likely include not only the challenge of a particular educational context but also the desired amount of learning, for results of the present study indicated that learning may suffer more so than grades when high-ability students procrastinate. What is more, active procrastinators struggled with stress, worry, and guilt as consequences of their decisions to procrastinate. Thus, helping students feel better about procrastination by seeing its benefits does not seem to be the best approach. It might be more appropriate to, first, help students understand what is producing their stress/worry/guilt and, second, determine effective coping strategies to either manage it
or reduce its occurrence to begin with (e.g., developing a slightly different balance of work and play).

When it comes to procrastination, student development practitioners should not limit themselves to an all-or-nothing approach. Any support or advice offered is more likely to be heard if it involves the full consideration of procrastination’s benefits and drawbacks as seen by the student. Recommended strategies for success in college do not need to prohibit procrastination outright. Such advice has a low probability of being accepted or implemented by students who usually can procrastinate successfully. Students will be more likely to incorporate academic strategies offered in the framework of how not to procrastinate when the situation calls for it. Working with active procrastinators may also involve identifying how to attain a balanced life in light of the concern that if students do not procrastinate they will be inefficient and not have time for the relationships and activities that are meaningful to them.

**Limitations and Suggestions for Future Research**

The present study has several limitations. First, students were bound by the context of a four-year public university in the Midwest. To examine whether the essence of active procrastination varies across different postsecondary contexts, future studies should examine students in a range of settings, including community colleges, liberal arts colleges, and highly selective universities. It is possible that, given differences in perceived intelligence or academic challenge, active procrastination may be less likely or take a different form among students at a given type of institution. Additionally, all
participants in the present study were White, and thus the findings may not represent the experience of active procrastination among students of different ethnicities. It would be illuminating to explore this experience among students of various ethnicities at predominately white institutions as well as in historically black colleges and universities, Hispanic-serving institutions, and tribal colleges and universities. It is possible that family expectations (Cano & Cardelle-Elawar, 2008) or the aggregate environment at a given institution (Strange & Banning, 2001) may play a role in whether context reinforces or discourages active procrastination among students who are not White.

Students in the present studied reflected on their procrastination during the course of a given semester. Their responses indicated that active procrastination appeared to contain a developmental aspect in that certain situations caused students to recognize that procrastination was not always wholly beneficial. Scholarly work with students across the course of their college enrollment—beginning with their initial entry into college and following their thoughts about procrastination each year—would provide insight into how students’ thought processes regarding procrastination develop over the course of college as a whole. As active procrastination appeared to originate in high school and be perceived as a potential challenge in graduate school, studies with students prior to and after the undergraduate experience could also reveal the particular features and trajectory of active procrastination during students’ academic lifespans.

Finally, the present study suggests several ways in which practical implications may follow from the findings. In order to determine how well different forms of
educational interventions and supports work for active procrastinators, those who work in higher education settings would benefit from incorporating evaluation and research components into programs that serve active procrastinators. The continued cycle of scholarly inquiry informing practice and practice informing scholarly inquiry will ensure that the understanding of active procrastination and its implications will unfold in a way that addresses the educational and developmental needs of students.
Chapter 5: Concluding Thoughts on Active and Passive Procrastination

An estimated 75 to 95 percent of college students engage in procrastination (Kachgal et al., 2001). The literature review and two studies undertaken for this dissertation show the complexity underlying the general sense that a large proportion of undergraduates procrastinate; most students may procrastinate, but they tend to do so in different ways. The overarching theme of this dissertation was to investigate how an active form of procrastination might stand in contrast to the passive form of the behavior and the negative aspects that typically accompany it. What is the nature of such a form of procrastination—that is, an approach to academic postponement said to be motivationally and educationally positive? Might there be greater complexity to procrastination than can be conveyed with a basic passive-bad, active-good contrast? The final chapter of this dissertation offers thoughts on these questions and their practical implications.

The Nature and Complexity of Procrastination

In the literature review in Chapter 2, I summarized how researchers have associated the traditional, passive form of procrastination with poor motivation and performance in college academics. I then discussed the move toward exploring active procrastination. I indicated how, beyond differences in their definitions, passive and active procrastination had distinct relations to various psychological and motivational variables, as well as, at some level, grades. I examined associations that seemed to
suggest limits to the degree to which active procrastination could be viewed as educationally adaptive, namely, its negative associations with learning strategies and mastery-approach goals (i.e., the goal of increasing one’s learning). I also highlighted areas where additional research would expand understanding of the construct, including the need to examine the context-specific nature of active procrastination, investigate relations to behavioral delay, account for the role of ability or prior achievement, and examine the individual components of active procrastination.

Several of these gaps in the literature underlay my approach in Chapter 3. Using survey-based research, I examined relations of context-specific passive and active procrastination to motivational beliefs (i.e., speed of learning, self-efficacy, task value), achievement (i.e., exam grade and course grade, controlling for prior achievement), and two validating measures of procrastination (i.e., number of days of advance studying and frequency of procrastination subscale from Solomon and Rothblum’s [1984] Procrastination Assessment Scale-Students). Although researchers have previously described passive and active procrastination as opposing forms of the behavior, this study revealed that a procrastination dichotomy was an oversimplification.

Criticism offered in the informal space of idea-exchange has revealed a major concern regarding the conceptualization of a certain form of procrastination as beneficial: the construct of active procrastination “is flawed with a mistake in language use and a misunderstanding about procrastination” (Pychyl, 2009, para. 3). Results of the study in Chapter 3 suggest this concern has some merit, particularly due to the factor structure of
active procrastination and each factor’s differing relations to the other variables examined in the study. The study raised questions such as whether previous measurement of active procrastination as a composite scale has incorrectly assumed that students with high scores on all components engage in behavioral delay, attributing positive associations to the engagement in active procrastination. The real source of these positive associations might instead be that students are able to meet deadlines and receive satisfying outcomes, aspects that may have little to do with whether they behaviorally engage in procrastination.

The study in Chapter 3 indicated that more remained to be known about the phenomenon of active procrastination and its dimensions; the study in Chapter 4 took an inductive approach as it sought to portray the student voice and subjective understandings (Suskie, 2009) of active procrastination. The quantitative study suggested limits to viewing active procrastination as educationally adaptive, in large part because two of the components previously said to be indicative of active procrastination did not seem to involve academic postponement. As revealed by the accounts in Chapter 4, however, students who exhibited the characteristics of active procrastination (e.g., preference for pressure, outcome satisfaction) described activities that indicated a pattern of behavioral procrastination.

Together, the findings of Chapters 3 and 4 suggest that an intentional and net-positive form of academic postponement exists, but that the specific components involve more nuance and subtlety than seem to be captured in existing scales. Complexities of the
experience of active procrastination included the fact that students faced a temptation to generalize their successful procrastination in one situation to all situations, but that they had awareness that procrastination was not always the best course of action. The ability to be discerning reinforced the intentional nature of choosing to procrastinate. This finding suggests that context is a necessary consideration when it comes to active procrastination; it is not so much an unchanging trait as it is a context-driven behavior that students either continue to do in the face of unchanging academic demands or apply selectively when academic demands vary.

Again indicating a complex nature that is not fully captured in dichotomous definitions, the phenomenological study revealed qualifications to the characteristics said to comprise active procrastination. Consistent with the definition of active procrastination, students often worked under pressure by choice; however, they usually did not have a positive affective or physiological experience, instead working under conditions of stress and worry. Another component previously ascribed to active procrastination is outcome satisfaction. Students in the present study achieved (adequately) satisfying outcomes (most of the time). They did not attain ideal outcomes or their best possible learning, but rather something that was good enough. Intentional delay often carried with it drawbacks in terms of the quality of the study experience, learning outcomes, and ability to fully enjoy other activities. The quantitative measurement of active procrastination could potentially be refined in light of these results. The general construct with its various dimensions does seem to exist in students’
own words—with the important caveat that the contradictions in drawbacks in this behavior are not accounted for in the existing quantitative measurement of active procrastination.

Together, the quantitative and qualitative studies offered insights in terms of grades and the learning process. To say that active procrastination is adaptive because it relates to higher grades does not provide a holistic picture of learning. There was a positive correlation between two components of active procrastination and grades in the quantitative study, but no component of active procrastination was predictive of high grades when controlling for a proxy of ability. This finding suggests that active procrastination is unlikely to be a method that leads to high grades, even though active procrastinators may receive high grades.

To make sense of this finding, it is helpful to recall that the existence of a high grade does not necessarily say anything about the methods used to attain the grade. In the qualitative study, active procrastinators received fairly (if not ideally) high grades and often spoke of learning both effectively and efficiently. At other times, however, they described figuring out a system to give professors exactly what they were looking for, making weaker written arguments than they knew they were capable of, and learning only so deeply as to recall information for a short period of time. Although students perceived themselves as being able to focus and cover large amounts of material during the period of time prior to an assessment (similar to what has been described by Schraw et al., 2007; R. Sommer, 1968; W. G. Sommer, 1990), often it appeared that the strategies
they employed were inconsistent with the literature on effective learning strategies (Pintrich et al., 1993). A concern discussed in the literature review from Chapter 2 was that if active procrastinators tend to have high amounts of ability and confidence in their capabilities to begin with, the fact that they are receiving high grades should not come as a surprise—nor should it be seen as evidence of the adaptive nature of active procrastination. The overall sense of the findings from this dissertation is that active procrastination may be keeping students from attaining their full academic potential.

**Addressing Active Procrastination in Higher Education**

Research into active procrastination, beyond providing theoretical insight, offers implications for practice. Learning and motivation are key elements of success in higher education, though many students may not consistently devote the types of behavioral and psychological efforts that underscore academic success (Weinstein, 2006). Student development practitioners play an essential role in supporting students’ learning and motivation, and connecting educational research to practice aligns with the field of student affairs’ longstanding commitment to supporting student success (Keeling, 2004).

An important principle to keep in mind is that habits and thoughts about learning may be resistant to change, but they are not fixed (Pintrich, 1995). Students’ own accounts reflected not only this principle but also students’ abilities to change their ways of thinking and acting. When they had awareness of performing poorly as a result of procrastination—a strategy that usually but not always worked out well—they were capable of changing their study methods. In terms of the intentionality of active
procrastination, students recognized that different academic demands required different responses (and that failing to make this recognition had or could cause trouble). If active procrastination is to be intentional, it requires some degree of discernment in choosing when to procrastinate and when to act; being a discriminating user of procrastination seemed to be a positive attribute of active procrastination (as opposed to, for instance, the view of passive procrastinator where students believe “I am an incurable time waster”; Tuckman, 1991, p. 477). This possibility for change serves as an encouragement for those in higher education who find themselves working with students as they make this shift. It is important not to assume, though, that all students will respond flexibly and adaptively to facing academic struggles for the first time. For practitioners to offer a form of support to which students are receptive, it will likely be helpful to understand both the compelling aspects of active procrastination and the associated flipside.

In the quantitative study, viewing learning as something that required time and effort (i.e., having a complex epistemological belief about knowledge acquisition) predicted a high final grade in anatomy, even when accounting for ACT score and different forms of procrastination. Viewing oneself as being capable of learning the content (i.e., having high self-efficacy) also was a positive predictor of anatomy grades. These findings suggest that, even though procrastination plays a role in academic outcomes, the way students think about the potential of their learning efforts is also important. Being able to look beyond behaviors to underlying motives and rationales is
likely to be a valuable skill for practitioners when it comes to working with procrastinators.

Understanding the appeal of active procrastination may also help practitioners to effectively support college students. For college students, time is an essential yet finite resource (Astin, 1984). Participants in the qualitative study revealed that they procrastinated as a way of ensuring they still had time for developing friendships and enjoying other non-academic aspects of being a college student. These components are aspects of the holistic developmental experience in college and should not be discounted (Evans, Forney, & Guido-DiBrito, 1998). Because intentionally procrastinating allowed students to attain other desired outcomes, the connection of active procrastination to life satisfaction and coping strategies makes sense (Chu & Choi, 2005), but it is possible that this correlation oversimplifies the issue. Although students seemed to be highly resilient, the high level of stress brought about by working under pressure and intrusive thoughts of guilt or worry limit the extent to which active procrastination can be seen as preferable in an overall sense. Active procrastinators might be a population with which student development practitioners should be prepared to work closely if needed. In such cases, a nuanced understanding of students’ reasons for and behaviors related to procrastination can inform effective advising and programming related to students’ abilities to balance the various demands of college.
Final Thoughts

Educators and researchers typically view procrastination as an undesirable behavior that is problematic for learning and overall well-being, but students’ claims of working better under pressure run counter this conception. The construct of active procrastination has been proposed as an academically beneficial alternative to the traditional, passive form of procrastination. That more than one form of procrastination may exist challenges the assumption that the delay of tasks in academic setting is necessarily maladaptive (Chu & Choi, 2005). The three main chapters of this dissertation addressed how this problem has been examined in the literature (Chapter 2); how the components of active procrastination in anatomy relate in different ways to motivational beliefs, academic outcomes, and other measures of procrastination (Chapter 3); and how students themselves experienced and described active procrastination across all their classes (Chapter 4).

The two empirical studies provided different insights on the nature of active procrastination. The quantitative study revealed that different components of active procrastination had unique attributes, and those associated with positive aspects of motivation and achievement did not receive validation as being reflective of academic postponement. The qualitative study demonstrated that students did indeed procrastinate on purpose and consequently experienced positive academic and personal outcomes, yet these outcomes were counterbalanced by aspects such as stress, surface-level learning, a recognition that procrastination could not work in all circumstances, and a sense of guilt
about delaying assignments. Together, the studies emphasized the nuance and contradiction inherent in active procrastination. After undertaking this dissertation, it seems clear that more than one form of procrastination exists; not all students who procrastinate are involved in what has been called the “quintessential self-regulatory failure” (Steel, 2007, p. 65). Still, the form of procrastination that seems relatively more positive contains complexities that point toward refinement of measurement and targeted support as future directions for research and practice.
References


constructs or different constructs with similar labels? Psychological Bulletin, 136, 422–449. doi:10.1037/a0018947


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Appendix A: Questions Used in Study Journals and Interviews

Initial Study Journal Entry
1. How would you define procrastination? What aspects or qualities stand out to you?
2. What is the experience of procrastination like for you? What do you typically do, think, or feel when you procrastinate?
3. What contexts or situations have typically influenced your experience of procrastination?
4. How has procrastination affected you or your schoolwork? Please explain.
5. What does your semester look like as a whole? Please consider the following questions.
   • What courses are you taking?
   • How enjoyable are your courses? How difficult are they? How much time/effort do they take?
   • What other obligations do you have on your time?

Biweekly Study Journal Entries
Which dates are you reflecting on in this journal entry? (From: ______ To: ________)
1. Please describe any procrastination you engaged in during the dates you indicated above. Please elaborate and provide detail in order to portray your unique experiences.
2. Please provide any additional information about the following:
   • What assignments did you procrastinate on?
   • What did you do instead?
   • What were the main reasons for procrastinating?
   • What were the results of procrastinating?
3. What do you remember thinking or feeling as you procrastinated? What has the experience of procrastination been like for you lately?
4. Were the any times when you wanted to procrastinate but didn’t? What happened? Please describe the experience as fully as possible.

Interview
Beginning of interview
1. Try to remember the last time you procrastinated and tell me anything you can about the situation, about what you thought, felt, or did. (What other demands were on your time? What did you do instead? Were you aware of any specific reasons for procrastinating?)
2. What was the result of procrastinating? (How satisfied were you with the result? What would you do similarly or differently next time?)

Middle portion asked students to elaborate on excerpts from study journals

Conclusion of interview
1. I’m interested in your earlier memories, as well. How do you think you started to procrastinate? (When was that? Who/what was involved? What types of assignments did you procrastinate on?)
2. How would you characterize procrastination’s overall role in your life?
3. Is there anything else you wanted to share about procrastination or studying?