AN INVESTIGATION OF ACADEMIC SELF-EFFICACY, PROCRASTINATION FREQUENCY, AND REASONS FOR PROCRASTINATION AMONG GROUPS OF ADAPTIVE PERFECTIONISTS, MALADAPTIVE PERFECTIONISTS, AND NON-PERFECTIONISTS

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By

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* * * *

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ABSTRACT

Previous research on perfectionism has emphasized its destructive qualities, including the setting of impossibly high standards for achievement and fear of failing to perform up to one's expectations. According to these negative depictions of perfectionism, individuals who strive to attain these levels of performance ultimately fail to reach their goals, resulting in frustration and disappointment. However, more recent conceptualizations of perfectionism draw attention to the construct's more positive and adaptive characteristics. According to multidimensional definitions of perfectionism, high personal standards are not inherently damaging and can be considered beneficial. Rather, one's concerns revolving around any discrepancies between their standards and actual performance are associated with negative outcomes. The current study used a multidimensional conceptualization of perfectionism that highlights both its adaptive and maladaptive characteristics and examined associations with academic self-efficacy and procrastination on academic tasks.

Measures of multidimensional perfectionism, academic self-efficacy, and procrastination were administered to 209 female and 91 male undergraduate students at a large Midwestern university. The participants included in this study were classified as adaptive perfectionists, maladaptive perfectionists, and non-perfectionists based on their levels of high personal standards and concern for any discrepancy between their
standards and actual performance. One-way analysis of variance among the groups found that types of perfectionists differed in their self-reported frequency of procrastination, reasons for engaging in procrastination, and academic self-efficacy beliefs. Regression analysis was conducted to assess the predictive value of perfectionism dimensions and academic self-efficacy for procrastination. Small but significant predictive value was found ($R^2 = .15$) for these constructs in predicting frequency of procrastination. These results are discussed in detail herein.
Dedicated to my Ama
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CHAPTER 1
INTRODUCTION

In most areas of human performance and functioning – be it academic, career-related, or interpersonal – the pursuit of excellence is considered a desirable and valuable goal. However, in some instances the drive to excel and do one’s best goes to extreme lengths and becomes the pursuit of perfection. Few personality characteristics are regarded with as much ambivalence as perfectionism. Although perfectionism can be considered a positive trait associated with elevated personal standards and high achievement (Hamachek, 1978; Silverman, 1983), it also has a dark side, one that has been linked to a host of negative behaviors and symptoms such as depression and anxiety (Rice & Mirzadeh, 2000; Suddarth & Slaney, 2001). How then, is perfectionism to be understood – as a positive quality to be promoted and cultivated, or a negative characteristic to be discouraged? Or is it possible that perfectionism has both adaptive and maladaptive qualities?

In order to develop a greater understanding of this multifaceted construct, various researchers have devised multidimensional definitions of perfectionism that attempt to encompass both its negative and positive qualities. For instance, Frost, Marten, Lahart, and Rosenblate (1990) described six components of perfectionism: high standards, concern over mistakes, doubts about actions, perception of parental expectations,
perception of parental criticism, and emphasis on order and organization. In contrast, Hewitt and Flett's (1991) definition of perfectionism focused on the interpersonal aspects of the construct and identified three dimensions, which they labeled self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. While these depictions view perfectionism in a pathological light, other psychologists have given equal attention to perfectionism's more adaptive qualities. Hamachek (1978) distinguished between normal perfectionists and neurotic perfectionists, both types who hold high standards for themselves but differ in their focus and approach to tasks. Based on their clinical experience treating perfectionistic clients, Johnson and Slaney (1996) conceived of perfectionism as a construct involving high personal standards, a sense of order and organization, and discrepancy between one's standards and actual performance.

Numerous studies—both empirical and based on clinical experience—have examined the psychological correlates of perfectionism. In the study of the academic and psychological functioning of college students, perfectionism can have important implications in the expectations students set for themselves (Bieling, Israeli, Smith, & Anthony, 2003; Pacht, 1984), their productivity and the quality of their actual performance (Bieling et al., 2003; Rice & Mirzadeh, 2000), and their cognitive and emotional responses to perceived success or failure (Bieling et al., 2003). These relationships indicate that multidimensional perfectionism is clearly an important subject for investigation. However, until recently the majority of studies of perfectionism have utilized more pathological definitions of the construct, giving the existing literature a negative bias. However, more recent research has shifted focus onto perfectionism's adaptive as well as maladaptive qualities. Many of these studies have used Slaney, Rice,
Mobley, Trippi, and Ashby's (2001) definition and scale of multidimensional perfectionism, the Almost Perfect Scale-Revised. These researchers describe perfectionism as composed of high personal standards for performance, an emphasis on order and organization, and a sense of discrepancy between one's standards and one's actual performance which can lead to psychological distress. According to this definition, possessing high standards is considered the adaptive dimension of perfectionism, while discrepancy is the maladaptive component. The present study contributes to the existing literature by using the Slaney et al. (2001) model and examining the relationships between multidimensional perfectionism and two other important variables impacting college students: Procrastination and academic self-efficacy.

Procrastination

Procrastination, defined as the needless delay of tasks to the point of subjective distress (Solomon & Rothblum, 1984), has been identified as a factor impacting the academic performance and psychological functioning of students. As with perfectionism, procrastination is regarded with some ambivalence in the psychological literature, part of which steps from the fact that procrastination is a relatively common behavior. Data combined from studies using one measure of procrastination (Lay, 1986) reveal that the scores from more than 2,000 university students are normally distributed, indicating that almost everyone procrastinates and suggesting that a moderate amount of procrastination is average and can be considered normal (Schouwenburg, 2004). However, several studies (Beswick, Rothblum, & Mann, 1988; Solomon & Rothblum 1984) of procrastination have documented that a significant number of student procrastinators report that their tendencies to delay tasks are problematic and would like to decrease the
frequency of their procrastination. For example, 46% of participants in Solomon and Rothblum's (1984) study reported that they nearly always or always procrastinate on writing a term paper. Of these participants, 23.7% reported that procrastination was nearly always or always a problem when writing a paper and 65% reported that they wanted or definitely wanted to reduce their procrastination on this task. Therefore, procrastination is generally conceptualized as a maladaptive behavior pattern, a view supported by its associations with low self-esteem, self-handicapping, depression, and anxiety (Beswick, Rothblum, & Mann, 1988; Effert & Ferrari, 1989; Ferrari 1991; Ferrari, 1994; Rothblum Solomon, & Murakami, 1986; Solomon & Rothblum, 1984).

Procrastination has been found to be associated with perfectionism in several studies (Ferrari, 1992; Flett, Blankstein, Hewitt, & Koledin, 1992; Frost et al., 1990; Saddler & Sacks, 1993). It has been hypothesized that perfectionists may engage in more procrastination due to their concern over their ability to create the perfect product (Johnson & Slaney, 1996). Because neurotic perfectionists often set standards for themselves that are impossible to meet and because they would rather avoid doing something wrong, they may be more likely to avoid activities that hold the possibility of negative evaluation (Hamachek, 1978). Procrastination has demonstrated relationships with various components of Hewitt and Flett’s (1991) and Frost et al.’s (1990) conceptualizations of perfectionism, including correlations with concern over mistakes, personal standards, organization, and socially prescribed perfectionism (Flett, Blankstein, Hewitt, & Koledin, 1992; Frost et al., 1990; Saddler & Sacks, 1993).

However, no published studies have examined the relationships among the adaptive and maladaptive aspects of Slaney et al.’s (2001) model and procrastination. This study
expands upon the existing literature by examining these associations.

**Self-Efficacy**

Both perfectionism and procrastination have also been studied in association with the concept of self-efficacy, an individual’s beliefs about their capabilities to successfully perform a given task or behavior (Bandura, 1977, 1986). According to Bandura's (1977) self-efficacy theory, self-efficacy beliefs operate through cognitive, motivational, affective, and selection processes to regulate how people think, feel, motivate themselves, and behave. Bandura hypothesized that perceived self-efficacy influences one’s choice of behavior settings and activities, how much effort one will expend in activities, the quality of one’s actual performance, and persistence in the face of obstacles (Bandura, 1977, 1986, 1994). According to studies of perfectionism, individuals who report higher adaptive perfectionism and who hold high standards for themselves but whose sense of self-worth is not contingent on meeting these expectations are likely to have higher self-efficacy. In contrast, maladaptive perfectionists, who are concerned with how they are evaluated by others and the discrepancy between their standards and performance, report lower self-efficacy (Hart, Gilner, Handal, & Gfeller, 1998; LoCicero & Ashby, 2000). However, previous studies that have examined the relationship between perfectionism and self-efficacy have utilized scales measuring general self-efficacy, a practice that does not follow Bandura’s (1977) conceptualization of self-efficacy as a domain-specific phenomenon. In order to add to the already existing literature on perfectionism and self-efficacy and to conform to Bandura’s theory, the present study utilized a measure of academic self-efficacy designed to tap individuals’ attitudes regarding their capabilities on school-related tasks.
Self-efficacy and procrastination have also been studied in association with each other. According to self-efficacy theory (Bandura, 1977, 1986), individuals who are less confident in their ability to successfully complete tasks will be more likely to avoid those activities rather than approach them. Thus, individuals who report low self-efficacy will be more likely to procrastinate and delay working on tasks, whereas individuals who have higher self-efficacy will be less likely to procrastinate. This relationship between procrastination and self-efficacy seems to be supported in the literature. Negative correlations between the two constructs have been observed in several studies (Ferrari, Parker, & Ware, 1992; Haycock, McCartney, & Skay, 1998). As with perfectionism, the previous research on procrastination and self-efficacy has used global measures of self-efficacy. In order to provide a clearer understanding of the relationship between procrastination and self-efficacy in a student population, this study examined the associations between procrastination and levels of academic self-efficacy.

Thus, perfectionism, procrastination, and self-efficacy have been found to be interrelated and have an impact on academic functioning. Accordingly, this study examined the relationships among these variables, which previously have not been combined in a single study. I hypothesize that adaptive perfectionism will be associated with higher self-efficacy and lower levels of procrastination, while maladaptive perfectionism will be associated with lower self-efficacy and greater procrastination. Additionally, this study will investigate the relationships among the perfectionism dimensions and the reasons for procrastination.
CHAPTER 2
REVIEW OF THE LITERATURE

This section will highlight previous research articles and nonempirical articles that have been written about the three relevant constructs of this study. Relevant literature in the areas of perfectionism, procrastination, and academic self-efficacy will be reviewed. Additionally, relevant articles focusing on the interactions among these constructs (i.e. perfectionism and procrastination, perfectionism and self-efficacy, procrastination and self-efficacy) will be highlighted and discussed. Finally, specific hypotheses for this study will be proposed.

2.1 Perfectionism

Based on clinical experience working with and treating perfectionist clients, a number of psychologists have characterized perfectionism as a negative, dysfunctional trait. For instance, Pacht (1984) considered the pursuit of perfection an undesirable, debilitating goal associated with various forms of psychopathology, including depression and anxiety. According to Pacht, imperfections are the qualities that give people character, charm, and vitality. Without these flaws, human beings would be “cold, sterile, and indeed, unlovable” (p. 386). To Pacht, perfectionism is a “no-win scenario” in which individuals set for themselves impossibly high standards of achievement and experience frustration when they ultimately and inevitably fail to reach their unattainable goals.
Burns (1980) also focused on a unidimensional, dysfunctional conceptualization of perfectionism, defining perfectionists as "people who strain compulsively and unremittingly toward impossible goals and who measure their own worth entirely in terms of productivity and accomplishment" (p. 34). According to Burns, this drive is destructive, self-defeating, and associated with a number of problems including decreased productivity, impaired health, low self-esteem, mood disorders, and anxiety. Additionally, perfectionists experience interpersonal difficulties and loneliness due to their fears of appearing foolish or being rejected due to their imperfections and their tendencies to apply their unreasonably high standards to other people. Burns also highlights common cognitive distortions that are often found among perfectionists and which undermine their productivity and cause personal distress. These dysfunctional thinking patterns include all-or-nothing thinking, overgeneralization, and the tyranny of the "shoulds." According to Burns, perfectionism is clearly an irrational and destructive pattern that needs to be addressed and resolved with counseling.

A number of researchers and practitioners have also elaborated on the concept of perfectionism by conceptualizing it as a multidimensional construct involving both personal and interpersonal aspects. Frost, Marten, Lahart, and Rosenblate (1990) integrated several definitions of perfectionism (Burns, 1980; Hamachek, 1978; Pacht, 1983) and created an instrument to measure the different dimensions of the construct. Based on these previous theories of perfectionism, Frost and colleagues identified six components of perfectionism, including excessively high standards, concern over making mistakes, doubts about the quality of one's actions or performance, perception of high parental expectations, perception of parental criticism, and emphasis on
precision, order, and organization. In this study, Frost et al. developed the Multidimensional Perfectionism Scale (FMPS), which is composed of separate subscales assessing each of the six dimensions. The initial study also found significant correlations between scores on the newly developed Multidimensional Perfectionism Scale and scores on the Brief Symptom Inventory (Derogatis & Melisaratos, 1983) and scores on the Depressive Experiences Questionnaire (Blatt, D'Afflitti, & Quinlan, 1976). These results seem to provide support for the idea that perfectionism is negative, dysfunctional quality.

Hewitt and Flett (1991) devised their own multidimensional definition of perfectionism, which focused on the interpersonal aspects of perfectionism. They described three dimensions of the construct: Self-Oriented Perfectionism, Other-Oriented Perfectionism, and Socially Prescribed Perfectionism. According to the authors, Self-Oriented Perfectionism involves the setting of high standards for oneself and strict evaluation of one’s behavior. Individuals high in this dimension are motivated to attain perfection in their endeavors and to avoid failure. Other-Oriented Perfectionism involves the beliefs and expectations an individual holds for other people – essentially, perfectionistic behavior directed outward rather than inward. This type of perfectionist is concerned with holding unrealistic expectations for significant others and evaluating their performance based on these elevated expectations. A third dimension of perfectionism, Socially Prescribed Perfectionism, describes an individual’s need to live up to the standards and expectations created by significant others who evaluate her or him and exert pressure on her or him to be perfect. In order to assess these dimensions, Hewitt and Flett created a new Multidimensional Perfectionism Scale (HMPS) with subscales corresponding to each dimension. In Hewitt and Flett’s conceptualization, all three
dimensions of perfectionism are considered maladaptive and are associated with various forms of psychopathology.

However, not all views of perfectionism consider it in an entirely negative or dysfunctional light. Hamachek (1978) was among the first psychologists to make a distinction between positive and negative types of perfectionism. Based on his clinical experience working with patients, he identified two different groups of perfectionists, whom he described as normal perfectionists and neurotic perfectionists. According to Hamachek, normal perfectionists hold high standards for themselves and value order and organization. These individuals derive a sense of pleasure and satisfaction from their efforts, but their self-esteem is not contingent on adherence to these requirements. In contrast, neurotic perfectionists set unreasonably high standards that are often impossible to meet and are never satisfied with their efforts, resulting in decreased self-esteem. In Hamachek’s words, “where the neurotics worry about their deficiencies and concentrate on how to avoid doing things wrong, the normals focus on their strengths and concentrate on how to do things right” (p. 28). Hamachek clearly distinguishes between positive and negative forms of perfectionism and their differing implications for individuals’ psychological well-being.

Terry-Short, Owens, Slade, and Dewey (1995) created a measure intended to assess both positive and negative dimensions of perfectionism. The authors pooled items from several previously developed instruments which represented the following categories: Positive perfectionism (i.e. perfectionistic behavior as a function of positive reinforcement), Negative perfectionism (i.e. perfectionistic behavior as a function of negative reinforcement), Personal perfectionism (i.e. a drive to set goals or targets for
oneself), and Socially Prescribed perfectionism (i.e. a perception of goals and targets being set for oneself by others). Based on their analysis of responses to these categories of items, the authors were able to identify and measure two distinct types of perfectionism, which they labeled Positive Perfectionism and Negative Perfectionism, and which closely resembled Hamachek’s conceptualization of normal and neurotic perfectionism. Negative Perfectionism was described as a function of avoidance of aversive or negative consequences. In contrast, Positive Perfectionism was a function of the achievement of desirable or positive consequences.

A qualitative study conducted by Slaney and Ashby (1996) suggested that having high standards for performance and neatness and efficiency are essential components of perfectionism, and these characteristics are not inherently pathological. Many participants evaluated their perfectionism positively and none were willing to give it up. However, almost all of the participants in their study reported experiencing some level of distress due to their perfectionism and almost a third of the sample had been labeled a perfectionist by a counselor or had entered counseling to address their perfectionism. This discrepancy between individuals’ positive evaluation of perfectionism and the amount of distress that they experienced seems to suggest that there is some ambivalence toward perfectionism. While there are rewards associated with striving toward perfection, there may also be psychological costs. In light of these findings, Slaney and Johnson (1996) attempted to develop a new model of perfectionism and a scale measuring the possession of high personal standards and order without conveying the message that these dimensions were necessarily pathological or problematic. The end result of their efforts was the Almost Perfect Scale, which was revised by Slaney, Rice, Mobley,
Trippi, and Ashby in 2001. The new scale and definition of perfectionism involves three components: high personal standards, order or organization, and discrepancy, which is defined as the perceived difference between one's standards and expectations and one's actual performance. According to this view of perfectionism, high standards and order represent the more adaptive aspects of perfectionism, whereas discrepancy is the defining aspect of maladaptive perfectionism. This discrepancy component may be a key contributor to procrastination behavior; therefore this definition of perfectionism devised by Slaney and his colleagues will be used in this study.

Scores on the subscales of the Almost Perfect Scale-Revised (APS-R; Slaney et al., 2001) have also been used to distinguish between groups of perfectionists. Rice and Slaney (2002) used cluster analysis of APS-R to identify groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. The perfectionist groups were identified by their relatively higher scores on the Standards and Order subscales. Furthermore, adaptive perfectionists and maladaptive perfectionists were distinguished by their significantly different scores on the Discrepancy subscale. Adaptive perfectionists were characterized by high standards in the absence of concerns about their ability to reach these standards. In contrast, maladaptive perfectionists were characterized by high personal standards in combination with the problematic perception that they lack the ability to achieve their standards. Consistent with the contention that adaptive perfectionism is associated with more positive outcomes (Slaney, Rice, & Ashby, 2002; Slaney et al., 2001), adaptive perfectionists reported higher grade point averages and self-esteem scores and lower scores of depression and anxiety in comparison to maladaptive perfectionists. Non-perfectionists reported lower
scores of positive adjustment compared to adaptive perfectionists, but these results were not significantly different from those of maladaptive perfectionists. Overall, the results of this study indicate that any differences between adaptive perfectionism and maladaptive perfectionism can be attributed to differences on the Discrepancy subscale.

Recent studies have examined the relationships among the different measures of perfectionism and attempted to identify higher-order factors representing the positive and negative aspects of perfectionism. Frost, Heimberg, Holt, Mattia, and Neubauer (1993) combined the Frost (1990) MPS and the Hewitt and Flett (1991) HMPS and then used factor analysis to identify two distinct factors of perfectionism. One factor was composed of the Personal Standards, Organization subscales of the FMPS and the Self-Oriented Perfectionism and Other-Oriented Perfectionism subscales of the HMPS. This factor was thought to represent the positive aspects of perfectionism and was called the Personal Strivings factor. A second factor composed of the Concern over Mistakes, Parental Criticism, Parental Expectations, and Doubts about Actions subscales of the FMPS and the Socially Prescribed Perfectionism subscale of the HMPS represented the more negative side of perfectionism, and was called Maladaptive Evaluations Concerns factor.

A second study conducted by Suddarth and Slaney (2001) looked at the associations among the FMPS, the HMPS, and the Almost Perfect Scale-Revised (APS-R) and attempted to identify higher-order factors. Principal-components factor analysis of the scales yielded three factors which accounted for the majority of the variance. The first factor was composed of the Concern over Mistakes, Parental Criticism, Parental Expectations, and Doubts about Actions subscales of the FMPS, the Socially Prescribed
Perfectionism subscale of the HMPS, and the Discrepancy subscale of the APS-R. This factor represented the maladaptive aspects of perfectionism. A second factor representing the adaptive dimension of perfectionism was composed of the Personal Standards subscale of the FMPS, the Self-Oriented Perfectionism and Other-Oriented Perfectionism subscales of the HMPS, and the Standards subscale of the APS-R. Finally, a third factor represented the Order/Organization factor and was composed of the Organization subscale of the FMPS and the Order subscale of the APS-R.

In order to assess the positive and negative qualities of multidimensional perfectionism, numerous studies have examined correlated with adaptive and maladaptive cognitions and behaviors. For example, although Hewitt and Flett (1991) conceptualized self-oriented, other-oriented, and socially prescribed perfectionism as maladaptive, other researchers have found evidence that self-oriented perfectionism may have some adaptive qualities, including associations with positive affect (Frost, Heimberg, Holt, Matia, & Neubauer, 1993) and resourcefulness (Flett, Hewitt, Blankstein, & O’Brien, 1991). In order to assess the adaptive and maladaptive features of self-oriented and socially prescribed perfectionism, Klibert, Langhinrichsen-Rohling, and Saito (2005) assessed relationships with both adaptive characteristics (i.e. self-esteem, perceived self-control, and achievement motivation) and maladaptive characteristics (i.e. depression, anxiety, suicide proneness, shame, guilt, and procrastination). Results indicated that self-oriented perfectionism was positively correlated with perceived self-control and achievement motivation, whereas socially prescribed perfectionism was negatively associated with these variables. Furthermore, socially prescribed perfectionism was related to the maladaptive variables of depression, anxiety, shame, guilt, and suicide proneness.
Consistent with previous research that illustrated that self-oriented perfectionism is a more adaptive form of perfectionism, nonsignificant correlations were found between self-oriented perfectionism and depression, shame, guilt, and suicide proneness. Additionally, self-oriented perfectionism demonstrated a negative relationship with procrastination.

In summary, these studies and the various conceptualizations of perfectionism support the contention that perfectionism is multidimensional and multifaceted. Not only does it involve a number of different components, it also has both adaptive and maladaptive features. Recent literature has focused on these maladaptive and adaptive dimensions of perfectionism and their relationships with a variety of emotional and behavioral consequences, including depression, attachment, anxiety, emotional adjustment, coping, and self-esteem. Additionally, research on the academic and personal functioning of college students has examined the relationship between perfectionism and procrastination, which has been conceptualized as a behavioral consequence of perfectionistic thinking.

2.2 Procrastination

Procrastination has also been identified as a behavioral pattern linked to academic outcomes. According to Senecal, Koestner, and Vallerand (1995), procrastination involves knowing that one is supposed to, and perhaps even wanting to, complete an academic task but failing to perform the activity within the expected time frame. More specifically examining procrastination in an academic setting, Rothblum, Beswick, and Mann (1984) defined procrastination as the tendency to put off academic tasks which is often accompanied by problematic levels of anxiety or distress. Current
research and treatment of procrastination regard it not as merely task-specific avoidance behavior but as a personality trait or a “tendency to exhibit a typical response in a variety of situations” (Schouwenburg, 2004).

Numerous research studies have demonstrated that procrastination is a common problem among college students. Schouwenburg (2004) collected the scores of over 2,000 college and university students who were administered Lay’s (1986) Procrastination Scale during the latter half of the decade and examined the prevalence of procrastination in a student population. The aggregated scores were approximately normally distributed ($M = 58.85, SD = 10.30$, range = 20-100), indicating that almost all students procrastinate to some degree and that a moderate amount of procrastination is considered average or normal. This distribution also demonstrates that a number of students reported procrastination scores below the base rate and were able to successfully display self-control and regulate their behavior and avoid the effects of discounting. In contrast, students who demonstrated procrastination scores above the mean may be experiencing excessive and problematic procrastination. In their academic tasks they may regularly experience a discrepancy between what they plan to do and what plans are actually carried out. According to Schouwenburg, these students may be classified as trait procrastinators or chronic procrastinators (Ferrari, Johson, & McCown, 1995).

Solomon and Rothblum (1984) were among the first researchers to examine procrastination in the academic setting and develop a new measure of procrastination that examined the frequency of and reasons for procrastination on academic tasks: the Procrastination Assessment Scale-Students (PASS). Their results indicate that procrastination represents a considerable problem for a significant number of college
students. Forty-six percent of their subjects reported that they nearly always or always procrastinate on writing a term paper, 28% procrastinate on studying for exams, and 30% delay reading weekly assignments. Students procrastinate to a lesser extent on attendance tasks, administrative tasks, and school activities in general. Participants were also asked about the extent to which their procrastination tendencies posed a problem for them. Twenty-four percent reported that procrastination was nearly always or always a problem when writing a term paper, 21% said it was a problem when studying for exams, and an additional 24% said it was a problem when doing weekly reading assignments. The majority of students (ranging from 55 to 65%) reported interest in reducing their procrastination on these tasks. Solomon and Rothblum suggested that the high frequency of procrastination on these particular tasks may reflect the value that students place on them and their significant contribution to overall academic performance.

In addition to assessing the frequency of academic procrastination, Solomon and Rothblum's (1984) scale assessed participants' reasons for engaging in procrastination. Factor analysis of their items revealed two factors: Fear of failure and Task Aversiveness. The fear of failure factor tapped into items related to anxiety about meeting others' expectations, concerns about meeting one's own standards, and lack of self-confidence. This factor accounted for 49% of the variance in scores. The second factor, task aversiveness, tapped items reflecting unpleasantness of the task and lack of energy or laziness. Aversiveness of the task accounted for 18% of the variance in participant scores.

Frequency patterns of endorsements of reasons revealed two distinct groups of procrastinators. First, Solomon and Rothblum identified a relatively homogeneous group of students who report procrastinating primarily as a result of fear of failure. Individuals
in this group procrastinated because of concerns about poor performance or because they cannot meet their own or others' expectations. This fear of failure factor was significantly correlated with depression, irrational cognitions, and anxiety. Negative correlations were found with punctuality and organized study habits, self-esteem, and assertion. The second group of procrastinators consisted of a large and relatively heterogeneous group of students who reported engaging in procrastination due to aversiveness of the task. This factor was significantly correlated with depression and irrational beliefs and negatively correlated with punctuality and organized study habits. Aversiveness of the task did not demonstrate significant correlations with anxiety or assertion and only a small correlation with self-esteem. These patterns of results suggest that students who procrastinate because of aversiveness of the task can be differentiated from students who procrastinate out of fear of failure because the latter are more likely to report high anxiety and low self-esteem. The authors conclude that procrastination does not merely represent a lack of study habits and time management but rather involves a complex interaction of cognitive, behavioral, and affective components.

As a follow-up study to the initial development of the PASS, Rothblum, Solomon, and Murakami (1986) examined affective, cognitive, and behavioral differences between low and high procrastinators. Strikingly, greater than 40% of their sample reported nearly always or always procrastinating on exams to the point of experiencing distress. Additionally, academic procrastination was found to be associated with behavioral outcomes: individuals who reported a relatively high level of procrastination also tended to delay on self-paced quizzes and performed less well academically than their counterparts who reported engaging in less procrastination. High procrastinators also
appeared to suffer from greater anxiety; this group reported greater test anxiety, state anxiety, and were more likely to report physical symptoms of anxiety. High procrastination was also related to dysfunctional cognitive patterns, including the tendency to attribute success to external and unstable factors, negative appraisal, less self-efficacy and less self-control. In sum, the results of Rothblum et al.'s study reveal that procrastination is associated not only with cognitive and affective dimensions, but also has an impact on academic performance.

Further analysis of the psychological correlates of procrastination in college students were conducted by Beswick, Rothblum, and Maan (1988). The authors assessed relationships with self-esteem, irrational thinking, and indecision by administering a series of questionnaires and assessing the time taken to complete three separate assignments. They reported that a significant proportion of their subjects reported strong tendencies to procrastinate on academic tasks. For example, 46% of their sample reported that they always or nearly always procrastinated when writing term papers and 31% always or nearly always procrastinated when studying for exams. Students who reported frequent procrastination were also likely to consider procrastination a personal problem. Additionally, students who reported and demonstrated tendencies to procrastinate on academic tasks tended to perform more poorly, reflecting either hastily completed work or the possibility that less capable students are more likely to delay completing tasks. Correlational analyses revealed a small but significant correlation between self-reported procrastination and irrational beliefs. Self-reported procrastination and delay in submitting a term paper assignment demonstrated significant negative correlations with self-esteem but positive relationships with anxiety and depression.
Regression analyses revealed that self-esteem and indecision accounted for a significant amount of the variance in self-reported procrastination, whereas irrational beliefs made little additional contribution.

Lay’s (1986) research further explored relationships between procrastination and maladaptive constructs by examining procrastination’s associations with disorganization and poor coping with stressful projects. Individuals who reported a relatively high level of procrastination tended to score low in organization and high in neurotic disorganization. However, in contrast to the results found by Rothblum et al. (1986) and Beswick et al. (1988), procrastination scores were not related to GPA and exam grade, suggesting that the procrastinator’s tendency to be disorganized, particularly at the cognitive level and in everyday activities, did not appear to negatively impact academic performance. However, although procrastination did not appear to detract from performance, it did seem to impair productivity and coping with stressful tasks. Low procrastinators and high procrastinators appeared to react and cope with such projects with dramatically different approaches. When faced with stressful assignments, low procrastinators tended to view these tasks as more challenging and engrossing, as having more positive impact, and also spent more time on these activities. Individuals characterized as high procrastinators did not exhibit these cognitive and behavioral patterns. In comparison to low procrastinators, high procrastinators tended to devote more time to enjoyable projects than stressful projects, behavior that is consistent with Ellis and Knaus’s (1977) theory that procrastinators are reluctant to perform stressful or unpleasant tasks in the process of accomplishing their goals.
Furthermore, two distinct types of procrastination have been identified and explored: decisional procrastination and behavioral procrastination (Effert & Ferrari, 1989; Ferrari, 1994). Decisional procrastination may be described as the purposive delay in making decisions within some specific time frame. By delaying tasks, individuals manage to avoid testing their abilities and require others to make decisions in their stead, thus allowing them to attribute any subsequent failure to someone else’s poor planning or decision making. Behavioral procrastination involves delaying or avoiding tasks in order to protect a vulnerable sense of self-esteem. These types of procrastinators base their self-worth on their ability to perform tasks. This ability is never tested as long as these individuals can successfully avoid completing tasks, thus allowing them to maintain an image of high task ability.

In addition to distinguishing between these two types of procrastination, Ferrari (1994) examined the relationships between the two and with other cognitive correlates. He found that decisional and behavioral procrastination were significantly correlated with each other and with interpersonal dependency, self-defeating behavior patterns, and low self-esteem. Further analyses revealed that interpersonal dependency significantly predicted decisional procrastination while self-esteem was a significant predictor of behavioral procrastination. Thus, while both forms of procrastination are similar in that they both involve delaying tasks to protect a fragile self-image, they seem to be predicted by different factors. The results of Ferrari’s (1994) study suggest that individuals who are indecisive and have avoidant motives for delaying actions tend to rely on others to make decisions for them.
The relationships among academic procrastination, self-handicapping, behavioral delay, and test performance were further explored by Beck, Koons, and Milgrim (2000). Results of this study found that individuals who reported higher levels of academic procrastination also tended to score high in self-handicapping. Additionally, these tendencies to procrastinate in academic situations and engage in self-handicapping were involved in the behavioral consequences of situational procrastination, amount of time spent studying, and exam performance. Individuals who were inclined to engage in procrastination and self-handicapping spent less time studying, delayed longer on exam preparation, spent less time studying, and did more poorly on exam compared to their counterparts who were not as prone to procrastinate or self-handicap. These results support Ferrari’s (1991b, 1992) findings that individuals procrastinate as a means of self-handicapping on academic tasks such as preparing for an exam. However, Beck et al. found that the effects of self-handicapping and academic procrastination on exam performance were mediated by ability level. Participants with low SAT scores (400-936) performed poorly on the exam regardless of whether they procrastinated or attended class lectures. Participants with medium SAT scores (937-1044) performed well on the exam if they attended lectures regardless of procrastination tendencies. Finally, participants with high SAT scores (1045-1290) performed well on the exam if they either did not delay studying or attended class lectures or both. Individuals in this group performed poorly if they both procrastinated and failed to attend class. Thus, the relationship between academic procrastination and performance may not be as direct as previously thought.
2.3 *Perfectionism and Procrastination*

Several of the leading researchers of perfectionism have hypothesized a relationship between perfectionism and procrastination. In his initial description of normal and neurotic perfectionism, Hamachek (1978) noted that while perfectionism is not necessarily a negative trait, it can be self-defeating when the fear of not performing up to one's standards results in delays in starting projects or activities. Hamachek also claimed that rates of procrastination varied by type of perfectionist. According to Hamachek, while normal perfectionists concentrate on their strengths and performing to their best ability, neurotic perfectionists focus on their deficiencies and try to avoid doing things incorrectly. These avoidant tendencies may lead to more frequent procrastination by neurotic perfectionists. Johnson and Slaney (1996) hypothesized that procrastination would be a problem experienced by perfectionists and reasoned that "because perfectionists want to produce the perfect painting, novel, or manuscript, they often delay starting or finishing because the final product will never be quite perfect" (p. 31). In their qualitative study of perfectionist clients, Slaney and Ashby (1996) reported that almost all of the participants who described themselves as neat and orderly also reported that they engaged in procrastination. Various authors have developed clinical and empirical research examining the relationship between these two constructs.

In their book entitled *Procrastination*, Burka and Yuen (1983) devote a section to "the search for perfection" (p. 19), which they equate with fear of failure. According to the authors, individuals who equate their self-worth with their abilities and performance accomplishments are more likely to procrastinate in order to provide an explanation for any performance that falls short of genius and to preserve their belief that they are
brilliant. For these individuals, the fear of being perceived by others or themselves as lacking ability is so powerful than they would rather be seen as lazy or disorganized rather than inadequate or unworthy. Procrastination functions to ease this fear of failure by providing a suitable excuse for any perceived inadequacies.

Burka and Yuen also theorize that many procrastinators also engage in the perfectionistic tendency to set unrealistically high standards and expectations for their performance. These standards are often impossible to meet and hinder rather than motivate progress. The authors describe several irrational beliefs commonly endorsed by perfectionists who procrastinate and which contribute to delays. For instance, some perfectionists believe that excellence should be accomplished with minimum effort. Because most individuals (perfectionist or non-perfectionist) must work hard or exert effort to approach their lofty goals, perfectionist individuals who subscribe to this belief may judge their capabilities to be inferior. Rather than face the disappointment of having to work hard to master tasks, they delay starting or finishing tasks in order to avoid disappointment. Additionally, perfectionists consider being “ordinary” or mediocre unacceptable and undesirable. Rather than face the limits of their only-human capabilities, they engage in procrastination, which allows them to attribute any mistakes or flaws in their work to lack of time. Thus, procrastination provides a handy rationale for an average performance and allows the irrational perfectionists to continue to believe that if they tapped their full potential they could achieve extraordinary things. In addition, many perfectionists subscribe to the belief that there is only one correct solution to every problem, and until they have discovered this solution, they hesitate to take any course of action at all. The fear of making the wrong choice paralyzes them, and they do
nothing rather than make any mistake. These irrational beliefs and others contribute to the procrastination tendencies demonstrated by perfectionists, whose impossibly high standards and fear of not achieving their goals impedes progress and impairs their performance.

A significant but weak relationship was found between unidimensional perfectionism and procrastination in a study conducted by Ferrari (1992). When compared to nonprocrastinators, procrastinators reported significantly more perfectionism, protectiveness, public and private self-consciousness, and self-handicapping. Procrastinators who scored high in perfectionism tended to demonstrate high scores on social anxiety, self-presentation, and self-handicapping. Procrastinators who were not high in perfectionism demonstrated high scores on only one measure of self-presentation. Based on this pattern of results, Ferrari postulated that perfectionism serves a different purpose for procrastinators and nonprocrastinators. Procrastinators may display perfectionistic tendencies in an attempt to impress others with their efforts, while nonprocrastinators may consider perfectionism a means of demonstrating their skills and abilities.

Additional studies have extended the literature on perfectionism and procrastination by using multidimensional definitions of perfectionism. When Frost, Marten, Lahart, and Rosenblate (1990) developed their Multidimensional Perfectionism Scale (MPS), they also examined the relationship between perfectionism and procrastination. The results of their analysis found that overall perfectionism was significantly correlated with the degree to which subjects perceived their procrastination as problematic, as assessed by the Procrastination Assessment Scale–Students (PASS;
Solomon & Rothblum 1984). However, overall perfectionism was not associated with
the frequency of procrastination. When the correlations between the subscales of the
MPS and the subscales of the PASS were examined, results indicated differential
relationships among the dimensions. Concern over Mistakes was positively correlated
with the extent to which procrastination was perceived as a problem by subjects, but not
with the frequency of procrastination. The Personal Standards and Organization
subscales were both negatively correlated with the frequency of procrastination,
providing further support for the authors’ contention that these subscales represent the
positive dimension of perfectionism, especially with regard to planning and completion
of tasks. In contrast, the Parental Expectations and Criticism subscales were positively
correlated with the frequency of procrastination and the degree to which subjects
perceived it as problematic. Thus, individuals high in the adaptive dimensions of
perfectionism seemed to experience less procrastination while those who reported higher
levels of the negative aspects of perfectionism appeared to experience more problematic
procrastination.

Flett, Blankstein, Hewitt, and Koledin (1992) examined the relationship between
perfectionism and procrastination in college students using two measures of
perfectionism and two measures of procrastination. The results of the analysis of the
Multidimensional Perfectionism Scale (Hewitt & Flett, 1991) revealed that self-oriented
perfectionism and other-oriented perfectionism were not significantly correlated with
frequency of procrastination. However, a significant relationship was observed between
socially prescribed perfectionism and procrastination. Additionally, these dimensions of
perfectionism were associated with the fear of failure reason for procrastination of the

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Procrastination Assessment Scale-Students (Solomon & Rothblum, 1984). In contrast to these results, scores on the Burns Perfectionism Scale (Burns, 1980) were significantly correlated with procrastination scores and with the frequency of academic procrastination, the extent to which procrastination was perceived as problematic, and fear of failure. Flett et al. also conducted separate correlational analyses by gender and found few significant correlations between perfectionism and procrastination for females. The primary exception was that both socially prescribed perfectionism and self-oriented perfectionism were related to the fear of failure factor among female participants. In contrast to these findings, a number of significant correlations between perfectionism and procrastination were obtained for males, suggesting that the relationship between the two concepts may be stronger for males.

Saddler and Sacks (1993) also used the Hewitt and Flett (1991) Multidimensional Perfectionism Scale in their study of perfectionism, procrastination, and depression. Their analysis found support for a significant relationship between Socially Prescribed Perfectionism and procrastination. No relationship was found between Self-Oriented Perfectionism and procrastination. However, contradictory to the findings of Solomon and Rothblum (1984), procrastinators in this study did not seem to procrastinate due to low self-confidence or perfectionistic standards for their performance. These results suggest that academic procrastinators are concerned with the standards they perceive that others hold for them, how they believe they are evaluated, and their beliefs regarding how they are pressured to be perfect by others. Saddler and Sacks also found that Self-Oriented Perfectionism, Socially Prescribed Perfectionism, procrastination, and year in school predicted depression.
Saddler and Buley (1999) examined factors that predicted academic procrastination, including goal orientation, self-efficacy, and perfectionism. Their study found that having an intrinsic goal orientation, self-efficacy for learning and performance, and Other-Oriented Perfectionism were not significant predictors of procrastination. However, a model that included test anxiety, Self-Oriented Perfectionism, Socially Prescribed Perfectionism, control of learning beliefs, and an extrinsic goal orientation did account for a significant amount of variance in procrastination scores. Additionally, individuals who demonstrated low scores on Self-Oriented Perfectionism tended to demonstrate higher scores of procrastination. That is, individuals who did not hold high standards for themselves tended to procrastinate more, a finding that was both unexpected and inconsistent with previous research on perfectionism and procrastination (Flett et al., 1992; Saddler & Sacks, 1993). The results of this study suggest that individuals who procrastinate on academic tasks tend to have concerns about negative evaluations of their performance and hold low personal standards for achievement.

In a study of the perfectionistic tendencies of graduate students, Onwuebuzie (2000) also found that perfectionism was associated with procrastination. Overall academic procrastination as measured by the Procrastination Assessment Scale-Students (Solomon & Rothblum, 1984) was positively correlated with socially prescribed perfectionism (Hewitt & Flett, 1991). When the relationship between perfectionism and the reasons for procrastination was analyzed, the author found that fear of failure was positively related to socially prescribed and self-oriented Perfectionism, whereas task aversiveness was not significantly related to any of the perfectionism subscales. Based
on these associations, Onwuebuzie hypothesized that the social context in procrastination is exhibited is more influential than the interpersonal context. These results point to the possibility that perfectionism may be a cause of procrastination—"in other words, it is likely that academic procrastinators are overly concerned about the standards that others hold for them, how they believe they are evaluated, and the extent to which they are expected by others to be perfect" (p. 108).

2.4 Self-Efficacy

An additional variable that has been linked separately to both perfectionism and procrastination is self-efficacy. Bandura (1986) defined self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance" (p. 391). Bandura introduced the concept of self-efficacy as part of a theory developed in 1977 to understand how different therapeutic models foster behavioral change in clients. He proposed that psychological treatments accomplish change by creating and strengthening expectations of self-efficacy, which Bandura defined as an individual's beliefs in his or her capability to perform and implement behavior that will produce a desired outcome (Bandura, 1977, 1986, 1989). Personal achievements depend not only on skills and abilities but also self-beliefs of efficacy to use those skills well. An individual who possesses the same knowledge and ability may demonstrate poor, sufficient, or extraordinary performance depending on fluctuations in self-efficacy beliefs (Bandura, 1993). Poor performance may result when individuals lack the necessary skills or when they possess the skills but lack the self-efficacy to use them.
According to Bandura's theory, self-efficacy expectations impact behavior through cognitive, motivational, affective, and selection processes (Bandura, 1977, 1989). For instance, self-efficacy influences choice of behavioral settings. Individuals are more likely to approach challenging situations and settings that they perceive themselves as capable of handling successfully, whereas they are more likely to avoid activities that they judge to be beyond their coping skills (Bandura, 1989). In one study, Bandura and Schunk (1981) found that students' perceived mathematical self-efficacy predicted their choice of engaging in challenging math problems rather than a different task: the greater the sense of self-efficacy, the more likely it was that students chose the math activity.

Perceived self-efficacy can also impact both the initiation and persistence of behavior. Individuals' beliefs in their capabilities to cope or be successful in a given situation shape the goals they set for themselves and their commitment to those goals (Bandura, 1989, 1994). Individuals who are characterized by high self-efficacy are more inclined to visualize success scenarios which function as positive guides for performance. Those who perceive themselves low in self-efficacy more often construct failure scenarios that damage performance by directing focus to what could go wrong. These expectations of success or failure can also affect the amount of effort individuals expend in these situations and their persistence in the face of obstacles and negative experiences. Individuals who are confident in their capabilities to accomplish certain tasks will exert greater effort in the face of any challenges or obstacles, whereas individuals who have doubt in their capabilities are more likely to decrease their efforts or prematurely terminate their attempts and accept of a mediocre solution (Bandura, 1977, 1986, 1989).
In summary, “Efficacy beliefs help determine how much effort people will
expend on an activity, how long they will persevere when confronting obstacles, and how
resilient they will prove in the fact of adverse situations – the higher the sense of efficacy,
the greater the effort, persistence, and resilience” (Pajares, 1996, p. 544). Bandura’s
theory and the concept of self-efficacy have since been applied to more general areas of
achievement outside of therapy. Bandura’s theory of self-efficacy has generated
numerous studies investigating these relationships between self-efficacy and initiation of
behavior, performance, and persistence. Due to the large number of studies that have
been conducted on these associations with self-efficacy and its relative significance in the
present study, only a few key studies focused on academic self-efficacy will be reviewed.

Studies of students’ academic functioning have found support for Bandura’s
contention that perceived self-efficacy mediates the effects of skills or other self-beliefs
on performance by influencing persistence, perseverance, and effort (Bandura, 1993;
Bandura & Schunk, 1981; Bouffard-Bouchard, 1990; Lent, Brown, & Larkin, 1984; Lent,
Brown, & Larkin, 1986). The relationships between Bandura’s conceptualization of self-
efficacy and academic performance and persistence were examined by in an early study
conducted by Lent, Brown, and Larkin (1984). Results of their study indicated that
students’ beliefs in their capabilities to fulfill educational requirements were related to
their actual class performance and persistence in college. Students who reported higher
self-efficacy strength ratings regarding their ability to complete educational requirements
for technical and scientific majors achieved higher grades and persisted in their majors
longer in comparison to students who reported relatively lower self-efficacy. Of
particular interest is the finding that all of the students who reported high-level and high-
strength self-efficacy remained enrolled in the technical college for all four quarters subsequent to the initial data collection, whereas of the low-level and low-strength groups, only 58% and 50%, respectively, persisted for the same length of time.

Lent, Brown, and Larkin (1986) replicated and extended their previous (1984) study by performing regression analysis using self-efficacy, high school rank, and math PSAT score to predict college grade point average (GPA) in science and technical courses, persistence in a technical major, and range of perceived technical and scientific career options. Consistent with the results of their previous study, subjects who reported higher self-efficacy achieved higher grades and persisted in the college of technology longer than did students who reported relatively lower self-efficacy. Regression analysis indicated that self-efficacy for academic milestones and educational requirements contributed a significant amount of variance beyond math PSAT score and high school rank in predicting GPA in science or technical courses. Self-efficacy also accounted for significant variance in the prediction of the persistence in the college of technology, beyond the contribution of high school rank. Additionally, self-efficacy added unique variance to the regression equation predicting range of perceived technical and scientific career options. The results of this series of regression analyses suggest that independent of interests, mathematical ability, and past achievement, self-efficacy aids the prediction of grades in technical and scientific courses, retention, and range of perceived career options. Results of correlational analyses conducted in this study also provided support for the discriminant validity of self-efficacy. Nonsignificant correlations were found between self-efficacy scores and general self-esteem and career indecision, suggesting that self-efficacy does not simply reflect global self-confidence or career choice certainty.
The results of Collins's (1982) study also illustrate the mediating effects of self-efficacy on performance at different ability levels. Collins first identified children at low, medium, and high levels of mathematical ability. Within each ability level were found children who had high or low mathematical self-efficacy. After instruction, the participants were given challenging math problems to solve and the chance to rework previous problems that they had answered incorrectly. Results showed that ability level was related to math performance; however, at each ability level, children who expressed greater confidence in their mathematical ability solved more problems correctly. Additionally, these high efficacy children opted to rework more of the problems they missed and did so with greater accuracy in comparison to students of comparable mathematical ability but more doubts about their performance. Collins also found that perceived mathematical self-efficacy predicted positive attitudes toward mathematics more than actual math ability. Thus, poor performance on tasks or assignments may not be the result of a deficit in skills or ability, but rather lack of the self-efficacy to effectively use the skills that one possesses.

Multon, Brown, and Lent (1991) used a meta-analysis technique to study the relationship between self-efficacy and academic performance and persistence. Results of their analysis revealed that self-efficacy was significantly and positively associated with both academic performance and persistence across a variety of student samples. Self-efficacy beliefs accounted for approximately 14% of the variance in students' academic performance and approximately 12% of the variance in academic persistence. However, significant heterogeneity among effect size estimates found in the studies included for analysis indicated that the relationship between self-efficacy and performance and
persistence may differ across types of samples, measures, and study designs. Differences in effect sizes may have been influenced by factors such as the time period during which self-efficacy and performance were assessed (e.g. pre-treatment versus post-treatment), students’ achievement status (e.g. low-achieving students versus students making normative progress), subject age (e.g. elementary school versus high school versus college), and types of performance measure used (e.g. basic skills measures, classroom-based performance indices, standardized achievement tests). In general, results of Multon et al.’s meta-analysis provide support for Bandura’s theory of self-efficacy and its relation to academic performance and persistence.

2.5 *Perfectionism and Self-Efficacy*

Burns (1980) suggested that perfectionists’ self-defeating cognitive patterns undermine their sense of self-efficacy. They consider themselves inefficient and incompetent based on a fantasy that truly successful people are able to reach their goals with few errors and with little effort or psychological distress. Because perfectionists’ limited coping efforts do not measure up to this fantasy, they feel inferior and incapable of achieving their goals. This lack of confidence and sense of incompetence and helplessness seems to be consistent with Bandura’s conceptualization of low self-efficacy (Bandura, 1977, 1986).

The literature regarding these topics suggests that individuals who report higher levels of the adaptive components of perfectionism also report higher levels of self-efficacy. Hart, Gilner, Handal, and Gfeller (1998) examined the relationship between scores on the Burns Perfectionism Scale (BPS; Burns, 1980) and the Hewitt and Flett Multidimensional Perfectionism Scale (HMPS; Hewitt & Flett, 1991) with scores of
general self-efficacy. Total perfectionism scores on the HMPS and BPS were not significantly related to self-efficacy. However, despite a lack of a significant correlation between HMPS total score and self-efficacy, further analysis found significant correlations between the three subscales of the MPS and self-efficacy. Scores of self-oriented perfectionism and other-oriented perfectionism were negatively correlated with self-efficacy. That is, higher levels of these dimensions of perfectionism were associated with lower levels of self-efficacy. In contrast, socially prescribed perfectionism was positively correlated with self-efficacy. Based on their scores on each of the perfectionism measures, participants were also divided into high and low perfectionism groups. Analysis of these groups revealed that total scores on either the BPS or HMPS did not discriminate high and low perfectionism scorers on the self-efficacy scale. That is, the self-efficacy scores of individuals who were high in perfectionism were not significantly different from the self-efficacy scores of those in the low perfectionism group. However, Hart et al. found that the separate subscales of the HMPS did discriminate on the self-efficacy variable. For the self-oriented and other-oriented perfectionism subscales, individuals who scored high in these dimensions of perfectionism had self-efficacy scores significantly below those of participants who scored low in these dimensions. However, a different pattern emerged when socially prescribed perfectionism was considered. Participants who demonstrated high scores on this subscale had self-efficacy scores significantly above those who were low in socially prescribed perfectionism. The results of this study seem to provide further support for the idea that perfectionism can be adaptive or maladaptive.
Using the Almost Perfect Scale-Revised (Slaney et al., 2001) and the Career Decision-Making Self-Efficacy Scale (Taylor & Betz, 1983), Ashby, Bieschke, and Slaney (1997) examined the relationship between self-efficacy and career decision making among adaptive, maladaptive, and non-perfectionist groups. Adaptive perfectionists reported higher scores of Accurate Self-Appraisal, Goal Selection, Making Plans for the Future, and Problem-Solving in comparison to maladaptive perfectionists. Additionally, adaptive perfectionists reported significantly higher scores than non-perfectionists on Self-Appraisal, Goal Selection, Making Plans for the Future, Problem Solving, and Gathering Occupational Information. Ashby et al. proposed that adaptive perfectionists and non-perfectionists may differ on career self-efficacy because adaptive perfectionists are accustomed to setting high standards for achievement and striving to meet these expectations. They also suggested that adaptive perfectionists may differ from maladaptive perfectionists on career self-efficacy because of their approach to fulfilling their high standards in career choice.

A study conducted by LoCicero and Ashby (2000) also examined the relationship between perfectionism and general self-efficacy. The authors identified perfectionists and non-perfectionists using the revised Almost Perfect Scale (Slaney, et al., 2001) and also used scores on the subscales to distinguish between adaptive and maladaptive perfectionists. The authors found that subjects in these groups reported varying levels of self-efficacy. Adaptive perfectionists evidenced higher scores on the Self-Efficacy Scale (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982) than non-perfectionists, whereas the self-efficacy scores of maladaptive perfectionists did not differ significantly from the scores of non-perfectionists. Differences were also observed
between adaptive and maladaptive perfectionists, with adaptive perfectionists reporting higher levels of general and social self-efficacy. This group of perfectionists indicated "significantly greater willingness to initiate behavior, greater willingness to expend effort in completing the behavior, more persistence in the face of adversity, and stronger belief in their ability to deal with others effectively" (p. 53). Thus, these results are not consistent with Burns's (1980) contention that perfectionists have low levels of self-efficacy. However, the results of this study do seem to provide further support for the contention that perfectionism may be adaptive or maladaptive.

2.6 Procrastination and Self-Efficacy

While perfectionism has been viewed as a contributing factor of self-efficacy, procrastination has been studied as a consequence of self-efficacy. According to Bandura's self-efficacy theory, self-efficacy beliefs determine an individual's choice of activities, how much effort she or he will expend, and how long she or he will persist (Bandura, 1977). Individuals high in self-efficacy are expected to be more likely to choose to engage in activities rather than avoid them, work harder in those activities, and persist longer when difficulties are encountered. Because procrastination can be interpreted as a type of avoidance behavior, higher levels of self-efficacy should be associated with low levels of procrastination, while lower levels of self-efficacy should be associated with more procrastination.

This relationship was observed in a study conducted by Ferrari, Parker, and Ware (1992) in which a negative correlation between frequency of procrastination and self-efficacy was observed. Low self-efficacy appeared to be related to greater procrastination tendencies. One interpretation of this result may be that frequent procrastinators believe
they have little mastery over their own behavior. Results also indicated that self-efficacy was negatively correlated with the reasons for procrastination and task aversiveness as a primary reason (Solomon & Rothblum, 1984). Multiple linear regression with MBTI type and self-efficacy entered as predictor variables and procrastination as the dependent variable found that only general self-efficacy was a significant predictor of the frequency of procrastination, reasons for procrastination, and task aversiveness. Results of this study suggest that self-efficacy may be a significant predictor of academic procrastination.

Haycock, McCartney, and Skay (1998) developed their own measure of general self-efficacy and examined the relationship between scores on this new instrument with scores of procrastination. Their analysis discovered that procrastination had a significant but negative relationship with efficacy level, cumulative efficacy strength, and average efficacy strength. When anxiety and self-efficacy were entered as predictor variables in multiple linear regression analysis with procrastination as the dependent variable, cumulative efficacy strength emerged as a significant and inverse predictor of procrastination. That is, individuals who reported stronger efficacy expectations tended to also report lower levels of procrastination.

Wolters (2003) examined procrastination from a self-regulated learning perspective, including its relationship with self-efficacy. He found that students who reported greater self-efficacy and a goal orientation of mastery also reported less procrastination. Additionally, work-avoidance orientation and self-efficacy emerged as the two greatest predictors of procrastination. In sum, these results suggest that students who were less confident in their ability to succeed and who were more focused on
completing their work quickly and without much effort had a greater tendency to procrastinate.

2.7 Summary and Hypotheses

Until recently, research and theories of perfectionism have conceptualized it as a unidimensional construct with negative implications for psychological functioning (Blatt, 1995; Burns, 1980; Pacht, 1984). However, more recent research has redefined perfectionism as multidimensional, with both adaptive and maladaptive qualities (Frost et al., 1990; Hewitt & Flett, 1991; Terry-Short et al., 1995; Slaney et al., 2001). The present study is intended to explore the multidimensional nature of perfectionism using a recently developed scale of the construct: the Almost Perfect Scale-Revised (Slaney et al., 2001) that defines adaptive perfectionism as having high personal standards for one’s performance in the absence of preoccupation with one’s ability to achieve those standards and maladaptive perfectionism as high standards combined with a high level of concern over any discrepancy between one’s standards and actual performance. Additionally, the present study seeks to extend the current body of research by relating adaptive and maladaptive perfectionism to procrastination and academic self-efficacy, concepts that also play a significant role in the scholastic functioning of college students. Although previous studies have explored the associations between perfectionism and procrastination (Burka & Yuen, 1983; Ferrari, 1992; Flett et al., 1992; Frost et al., 1990), none of these studies have used the APS-R to measure adaptive and maladaptive features of perfectionism.

This study proposes that adaptive perfectionists who are characterized by high personal standards will demonstrate more positive academic outcomes; namely less
tendency to procrastinate and higher academic self-efficacy. In contrast, maladaptive perfectionists who are characterized by a discrepancy between expectations and performance will report greater procrastination and lower academic self-efficacy. Additionally, the relationships among the dimensions of perfectionism and the reasons for procrastination will be explored to develop a greater understanding of students' motives for delaying academic tasks. The author proposes that maladaptive perfectionists will be more likely to endorse the fear of failure reason for procrastination.

The present study formulated the following hypotheses.

1. Adaptive perfectionists will report less frequent procrastination and higher academic self-efficacy in comparison to maladaptive perfectionists and non-perfectionists. Maladaptive perfectionism will report more frequent procrastination and lower self-efficacy than adaptive perfectionists and non-perfectionists.

2. Maladaptive perfectionists will report engaging in procrastination due to fear of failure more frequently than Adaptive perfectionists or Non-perfectionists.

3. The Standards dimension of perfectionism will be associated with lower levels of procrastination and higher academic self-efficacy, whereas the Discrepancy dimension will be associated with higher levels of procrastination and lower academic self-efficacy.

4. Discrepancy will be associated with the fear of failure rationale for procrastination.
CHAPTER 3
METHOD

3.1 Participants

Participants for the study were enrolled in an introductory psychology course at a large Midwestern university. Recruitment consisted of posting the experiment on the Research Experience Program website with a description of the location, time, and general nature of the study. Participation partially fulfilled a course requirement, but can still be considered voluntary because alternate options were available in lieu of research participation.

The sample included 209 female and 91 male undergraduate students. Ages of participants ranged from 18 to 40, with a mean age of 18.74 years ($\text{SD} = 2.25$). The majority (84%) of the participants were in their first year of college, with 11% sophomores, 3% juniors, and 2% seniors. No graduate or professional students were included in this study.

Ethnically, 4.7% of the sample identified as African/African American, 6.3% as Asian American/Pacific Islander, 1.7% as Latino/Latina, and 85% as Caucasian/White. A small number of participants (2.3%) selected Other and reported individual racial information reflecting their multiracial heritage.
3.2 **Instruments**

Four instruments were administered to participants in random order, including the Almost Perfect Scale-Revised, the Procrastination Assessment Scale-Students, and the Marlowe-Crowne Social Desirability Scale. The instruments were randomized to avoid possible order effects. Additionally, participants completed a brief demographic questionnaire prior to the administration of the other instruments.

3.2.1 **Perfectionism**

The Almost Perfect Scale-Revised (APS-R; Slaney, Rice, Mobley, Trippi, & Ashby, 2001) was used to assess levels and dimensions of perfectionism. The revised version of the Almost Perfect Scale consists of 23 items designed to assess both adaptive and maladaptive components of perfectionism. The APS-R contains three separate subscales for High Standards (7 items), Order (4 items), and Discrepancy (12 items). Sample items include “I expect the best from myself” (High Standards), “I like to always be organized and disciplined” (Order), and “My performance rarely measures up to my standards” (Discrepancy). Participants respond to the items using a seven-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (7). Each subscale is scored independently by summing the individual item values. Total scores for the entire subscale range from 23 to 161. Total scores for the subscales range from 7 to 49 for Standards, 4 to 28 for Order, and 12 to 84 for Discrepancy. Higher scores on the subscales indicate higher levels of standards, order, and discrepancy.

Coefficient alphas for the High Standards, Order, and Discrepancy subscales were reported as .85, .86, and .92, respectively (Slaney, et al., 2001). Ashby and Rice (2000) reported similar reliability coefficients of .84 for Standards, .85 for Order, and .93
for Discrepancy. Test-retest correlations were reported to be adequate over a period of three weeks: .72 for Standards, .80 for Order, and .83 for Discrepancy (Grzegorek, Slaney, Franze, and Rice, 2004). Construct validity for the scale was established by comparing scores on the individual subscales with selected subscales of the Hewitt and Flett (1991) Multidimensional Perfectionism Scale (HMPS) and the Frost et al. (1990) Multidimensional Perfectionism Scale (FMPS). The Standards subscale was significantly correlated with the Self-Oriented Perfectionism subscale of the HMPS ($r = .55$) and the Personal Standards dimension of the FMPS ($r = .64$). Discrepancy was significantly correlated with both Self-Oriented and Socially Prescribed Perfectionism ($r = .23$ and .45, respectively) from the HMPS and Concern over Mistakes and Doubts about Actions ($r = .55$ and .62, respectively) from the FMPS. For the present study, coefficient alphas of .87, .90, and .93 were found for Standards, Order, and Discrepancy, respectively.

In order to distinguish between Adaptive and Maladaptive perfectionists, a procedure following that used by LoCicero and Ashby (2000) was used. Perfectionists were identified as participants whose scores on the Standards subscale fell above the 60th percentile; in other words, participants in the top third of the sample in Standards scores were identified as perfectionists. Once perfectionists were identified, a median split of the Discrepancy subscale determined Adaptive perfectionists and Maladaptive perfectionists. Those perfectionists scoring in the top half of the Discrepancy subscale were identified as Maladaptive perfectionists (i.e., Maladaptive perfectionists experience greater distress when they do not meet their high standards in comparison to their counterparts). Adaptive perfectionists were classified as those who scored in the bottom half of the Discrepancy subscale. Adaptive perfectionists were those who experienced lower levels of distress.
when assessing any discrepancy between their standards and their actual performance. The Order subscale was not used to distinguish between adaptive and maladaptive forms of perfectionism.

3.2.2 Procrastination

Because this study used a sample of college students, academic functioning was the main area of focus. In order to assess the procrastination tendencies of participants, Solomon and Rothblum’s (1984) Procrastination Assessment Scale-Students (PASS) was administered. The 52-item PASS consists of two parts assessing (a) the self-reported frequency of procrastination and the extent to which procrastination results in distress; and (b) cognitive-behavioral reasons for procrastination.

The first section of the PASS consists of 18 items assessing the prevalence of procrastination in six academic activities: writing a term paper, studying for exams, keeping up with weekly reading assignments, academic administration tasks, attendance tasks, and school activities in general. Examples of academic administration tasks include filling out forms, registering for classes, and getting an ID card. Attendance tasks include meeting with your advisor and making an appointment with a professor. Participants rate the degree to which they procrastinate on a task using a five-point Likert scale. The scale ranges from Never Procrastinate (a) to Always Procrastinate (e). Participants also indicate the extent to which procrastination on the task is considered a problem, from Not At All a Problem (a) to Always a Problem (e). Finally, participants report to what degree they want to decrease their tendency to procrastinate on the task, from Do Not Want To Decrease (a) to Definitely Want To Decrease (e). For the present study, only frequency of procrastination was analyzed in relation to the other variables of interest.
The second section of the PASS consists of 26 items assessing reasons for procrastination. Participants are asked to rate the reasons on a 5-point Likert scale ranging from *Not At All Reflects Why I Procrastinated* (a) to *Definitely Reflects Why I Procrastinated* (e). Examples of items include “You were worried you might get a bad grade” and “You really disliked writing term papers”. The PASS is scored by assigning a numerical value to the scale for each question such that a = 1, b = 2, c = 3, d = 4, and e = 5. The first two questions of each of the six procrastination areas are then summed to provide a total score ranging from 12 to 60. A higher score is more indicative of self-reported procrastination. Solomon and Rothblum (1984) conducted factor analysis on the items and identified two factors that accounted for the majority of the variance, which they named Fear of Failure and Task Aversiveness. The Fear of Failure factor taps into items related to evaluation anxiety, perfectionism, and lack of self-confidence. The Task Aversiveness factor taps into items related to aversiveness of the task and laziness. Reasons for procrastination were scored using the factor loadings from Solomon and Rothblum’s (1984) factor analysis of the PASS. Five of the 26 items indicate Fear of Failure as a reason for procrastination, and three items indicate Aversiveness of the Task.

Ferrari (1989) analyzed the internal consistency reliability of the PASS and found coefficient alphas of .75 for frequency and .70 for perceived problems. Brownlow and Reasinger (2000) reported coefficient alphas of .71 and .81 for frequency and reasons, respectively. Onwuegbuzie (2000) determined the internal consistency reliability coefficients of the overall procrastination scale, the fear of failure factor, and the task aversiveness factor as .84, .85, and .76, respectively. Ferrari (1989) also assessed test-retest reliability of the PASS over a six-week interval, and reported correlation
coefficients of .74 for prevalence and .56 for reasons. Convergent validity was established through measuring significant relationships with problem avoidance ($r = .32$; Bridges & Roig, 1997), self-handicapping ($r = .53$; Beck, Koons, & Milgrim, 2000), and behavioral delay ($r = .25$; Milgrim, Marshevsky, & Sadeh, 1995). Internal consistency reliability analysis used in the present study found coefficient alphas of .78 for procrastination frequency, .81 for fear of failure, and .72 for task aversiveness.

3.2.3. Self-Efficacy

According to Bandura’s original model of self-efficacy, the construct is domain-specific, and therefore a specific scale is required to measure self-efficacy in the academic area. Thus, academic self-efficacy of participants was assessed using Wood and Locke’s Academic Self-Efficacy Scale (ASE; 1987). The ASE is designed to assess magnitude, or the level at which an individual believes she or he can perform, and strength, or the individual’s level of confidence that she or he can perform at that level (Bandura, 1977; Wood & Locke, 1987). The ASE examines seven areas of academic performance: class concentration, memorization, exam concentration, understanding, explaining, discriminating concepts, and note taking. Items include four to five levels of performance for each task area, for example concentrate for at least 50% (or 70%, 90%, or 100%) of a class period or memorize 50% (or 70%, 90%, or 100%) of the facts and concepts. Participants are required to indicate “can do” at each performance level and then indicate level of confidence judgment ranging from Totally Unconfident (0) to Totally Confident (10).

In order to obtain scores for the ASE, Wood and Locke (1987) defined magnitude as the total number of “can do” responses divided by the total number of items. Strength
was calculated as the mean confidence rating for all items, or the sum of all scores across items divided by the total number of items. Alternately, Lee and Bobko (1994) found that the optimal scoring method involves creating a composite by combining the strength estimates for items in which the magnitude response is yes and dividing by this number of items. For the present study, a procedure following that used by Lee and Bobko (1994) was used to assess strength of participants’ academic self-efficacy. Using this method, strength composite scores range from 1 to 10.

Maurer and Pierce (1998) reported a Cronbach coefficient alpha of .80 for the entire ASE scale. Lee and Bobko (1994) calculated coefficient alphas for the class concentration, memorization, understanding, explaining concepts, discriminating concepts, and note taking sections as .86, .82, .80, .86, .81, and .84, respectively. They also reported test-retest correlations for self-efficacy strength and magnitude as .77 and .78, respectively. The present study found coefficient alphas for class concentration, memorization, exam concentration, understanding, explaining concepts, discriminating concepts, notetaking, and grades to be .80, .87, .75, .77, .79, .82, .80, and .70, respectively. Additionally, a reliability coefficient of .89 was found for the strength composite used in this study.

3.2.4. Social Desirability

In order to assess the effects of socially desirable responding, the 33-item Marlowe-Crowne Social Desirability Scale (M-C SDS; Crowne & Marlowe, 1960) was also administered to participants. This measure was used to determine if adaptive perfectionists, maladaptive perfectionists, and non-perfectionists differed in their tendencies to respond to items assessing their academic behaviors in a socially desirable
manner. Items on the scale are intended to represent behaviors that are either socially desirable but uncommon of most people or behaviors that are very common but not socially approved. Sample items include "I always like to practice what I preach" and "I never hesitate to go out of my way to help someone in trouble." A scoring key in which socially desirable answers are indicated was used to score participants' responses. A higher score on the scale indicates a greater tendency to respond in a socially desirable manner. In their initial development of the instrument, the authors obtained a Kuder-Richardson reliability coefficient of .88. A test-retest correlation of .89 was reported after a four week interval. Scores on the M-C SDS were significantly correlated with scores on the Edwards Social Desirability Scale ($r = .35$). Crowne and Marlowe established discriminant validity by comparing the correlation coefficients between scores on the M-C SDS and scores on the MMPI with the correlation coefficients between scores on the ESDS and scores on the MMPI. The correlations for scores on the Edwards scale were consistently higher than those for the M-C SDS scores, which the authors interpreted as evidence that the two measures of social desirability were assessing different aspect of the construct. A coefficient alpha of .74 was found for the sample used in this study.

3.2.5. *Demographic Questionnaire*

A brief questionnaire requesting age, gender, class standing, and ethnicity was distributed to all participants.

3.3 *Procedure*

Participants first completed a brief demographic questionnaire requesting information about age, gender, race, and year in school. Next, they completed the four instruments in random order. All instruments were administered using paper and pencil,
with participants indicating their responses directly on the measures. Following completion of the instruments, participants received a brief debriefing form describing the purpose of the study and were given course credit for their participation.

3.4 Data Analyses

Descriptive statistics, including means and standard deviations, were obtained for each measure. Internal consistency reliability coefficients were also calculated.

Following this procedure, a one-way multivariate analysis of variance (MANOVA) was conducted to assess differences in frequency of procrastination, reasons for procrastination, and academic self-efficacy as a function of type of perfectionist (i.e., adaptive, maladaptive, or non-perfectionist). One-way analysis of variance (ANOVA) was used to analyze any differences found among the groups, followed by Post hoc Tukey B tests. Correlational analyses were conducted to examine the relationships among the subscales of the APS-R, PASS, and ASE. In order to determine the amount of variance in procrastination that could be accounted for by the relationship between perfectionism and self-efficacy, multiple linear regression analysis was performed.
CHAPTER 4

RESULTS

Results are presented for a total of 300 participants. Originally, a total of 312 participants were included in this sample; however, the data from 12 of those participants were excluded due to failure to complete at least 75% of one of the measures included in the present study. All of these participants failed to fully complete the Academic Self-Efficacy Scale, which was printed on both sides of the sheets of paper included in the packet of measures. Participants neglected to complete the items on the back sides of the sheets, resulting in only partial completion of the scale. The remaining 300 participants completed all of the instruments in full and their data were included for analysis.

4.1 Reliability Analysis

Table 4.1 shows the results of the internal consistency reliability coefficient alphas for the measures of multidimensional perfectionism, academic procrastination, and academic self-efficacy. As shown in the Table, coefficient alphas have been reported for the three subscales of the Almost Perfect Scale-Revised. Additionally, coefficient alphas have been reported for Procrastination Frequency as well as the two reasons for procrastination of the Procrastination Assessment Scale-Students. Internal consistency reliability was also calculated for the strength composite of the Academic Self-Efficacy Scale and for the individual academic tasks. Coefficient alphas for all of the measures
used to examine the main hypotheses ranged from .70 (Grades subscale of the Academic
Self-Efficacy Scale) to .93 (Discrepancy subscale of the Almost Perfect Scale-Revised).
Reliabilities greater than .70 are considered minimum for research purposes (Walsh &
Betz, 2001).

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of items</th>
<th>α</th>
</tr>
</thead>
<tbody>
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<td></td>
</tr>
<tr>
<td>Standards</td>
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<td>.87</td>
</tr>
<tr>
<td>Order</td>
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<td>.90</td>
</tr>
<tr>
<td>Discrepancy</td>
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<td>.93</td>
</tr>
<tr>
<td>Procrastination Assessment Scale-Students</td>
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<td></td>
</tr>
<tr>
<td>Frequency</td>
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<td>.79</td>
</tr>
<tr>
<td>Fear of Failure</td>
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<td>.81</td>
</tr>
<tr>
<td>Aversiveness of the Task</td>
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<td>.72</td>
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<tr>
<td>Strength Composite</td>
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<tr>
<td>Class Concentration</td>
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</tr>
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<td>Memorization</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>Marlowe-Crowne Social Desirability Scale</td>
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<td>.74</td>
</tr>
</tbody>
</table>

Table 4.1: Values of coefficient alphas for the Almost Perfect Scale-Revised,
Procrastination Assessment Scale-Students, Academic Self-Efficacy Scale, and Marlowe-
Crowne Social Desirability Scale.

4.2 Classification of Groups

In this sample, total scores for the Almost Perfect Scale-Revised ranged from 57
to 154 ($M = 104.60, SD = 18.01$). Scores for the subscales ranged from 16 to 49 ($M =$
41.85, $SD = 5.92$) for Standards, from 5 to 28 ($M = 20.55, SD = 5.26$) for Order, and from
12 to 83 ($M = 42.2, SD = 15.13$). Perfectionists were identified as participants whose
scores on the Standards subscale fell above 45. Thirty-seven percent of the participants from this sample \((N = 112)\) were identified as Perfectionists. The median score for the Discrepancy subscale for this sample was 39. Perfectionists whose Discrepancy scores were 39 or higher were identified as Maladaptive perfectionists, while perfectionists whose Discrepancy scores were below 39 were identified as Adaptive perfectionists. Sixty-three percent \((N = 188)\) of the participants in this sample were classified as Non-perfectionists, 18\% \((N = 55)\) were classified as Adaptive perfectionists, and 19\% \((N = 57)\) were identified as Maladaptive perfectionists.

4.3 *Analysis of Variance*

The mean and standard deviation results for each scale as well as the socially desirable responding measure were calculated for all participants and then separately for Adaptive perfectionists, Maladaptive perfectionists, and Non-perfectionists. Data were analyzed using a one-way multivariate analysis of variance (MANOVA). The between subjects factor was Perfectionism (adaptive perfectionists, maladaptive perfectionists, and non-perfectionists). The dependent variables were Frequency of Procrastination, Reasons for Procrastination, Academic Self-Efficacy, and Socially Desirable Responding. The results are presented in Table 4.3.

The overall multivariate model was significant (Wilks's \(\lambda = .33, F(2, 292) = 36.20\). Results of separate one-way univariate analyses of variance (ANOVA) revealed significant differences on all of the dependent variables with the exception of the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). Effect sizes \((\eta^2)\) for the statistically significant mean differences ranged from .04 to .07. Based on Cohen's (1988) criteria., these effects sizes range from small (.01-.05) to moderate (.06-.14).
Tukey B tests were selected as the planned comparison post hoc tests. The post hoc Tukey B tests of the Almost Perfect Scale-Revised indicated that the Adaptive and Maladaptive perfectionist groups differed significantly from the Non-perfectionist group on both the Standards and Order subscales. Adaptive perfectionists ($M = 47.11, SD = 1.50$) and Maladaptive perfectionists ($M = 47.56, SD = 1.50$) had significantly higher mean scores on the Standards subscale and the Order subscale ($M = 22.49, SD = 3.82$ and $M = 22.70, SD = 5.49$, respectively) in comparison to Non-perfectionists ($M = 19.33, SD = 5.19$). On the Discrepancy subscale, all three groups reported significantly different mean scores. The Adaptive perfectionists reported the lowest mean score ($M = 27.75, SD = 6.45$), the Maladaptive perfectionists had the highest mean score ($M = 54.81, SD = 12.98$), and Non-perfectionists had scores that fell in-between ($M = 42.61, SD = 13.92$) those of the two perfectionist groups.

Post hoc Tukey B tests also revealed differences among the groups on the Procrastination Assessment Scale-Students (PASS). As hypothesized, Adaptive perfectionists ($M = 31.20, SD = 7.05$) reported less procrastination than Non-perfectionists ($M = 35.36, SD = 5.60$). This result provides some support for the contention that adaptive perfectionism may be a healthy form of perfectionism (Hamachek, 1978; Slaney et al., 2001). In contrast, the mean score of procrastination frequency for Maladaptive perfectionists ($M = 33.82, SD = 7.00$) did not significantly differ from either Adaptive perfectionists or Non-perfectionists, a finding contrary to the hypothesis that Maladaptive perfectionists would engage in procrastination more frequently than either Adaptive perfectionists or Non-perfectionists. However, for the Fear of Failure reason, Maladaptive perfectionists ($M = 12.72, SD = 4.81$) had
significantly higher mean scores than both Adaptive perfectionists \((M = 8.93, SD = 4.32)\) and Non-perfectionists \((M = 10.31, SD = 4.09)\). However, the mean scores for Non-perfectionists and Adaptive perfectionists were not significantly different on this factor. These results are consistent with the hypothesis that Maladaptive perfectionists (i.e., perfectionists who are characterized by concern for the discrepancy between their high personal standards and actual performance) are more likely to avoid tasks that might test their abilities and find them insufficient. For the Task Aversiveness factor, the Tukey B post hoc test revealed that the mean scores for Maladaptive perfectionists \((M = 10.37, SD = 2.99)\) and Non-perfectionists \((M = 10.09, SD = 2.82)\) were not significantly different from each other. However, Maladaptive perfectionists and Non-perfectionists had significantly higher mean scores than Adaptive perfectionists \((M = 8.69, SD = 3.05)\), indicating that Maladaptive perfectionists and Non-perfectionists reported procrastinating due to task aversion more frequently than did adaptive perfectionists.

A similar pattern emerged of the results from the ANOVA and the Tukey B post-hoc test of the Academic Self-Efficacy Scale. Maladaptive perfectionists \((M = 8.33, SD = 1.00)\) and Non-perfectionists \((M = 8.27, SD = .95)\) did not report significantly different mean scores of academic self-efficacy. However, the mean score for Adaptive perfectionists \((M = 8.88, SD = .86)\) was significantly higher than the mean scores of maladaptive perfectionists and non-perfectionists.
<table>
<thead>
<tr>
<th>Scale</th>
<th>Adaptive Perfectionists (N = 55)</th>
<th>Maladaptive Perfectionists (N = 57)</th>
<th>Non-Perfectionists (N = 188)</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>F</th>
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<td></td>
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<td>13.92</td>
<td>63.81**</td>
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<td></td>
<td></td>
<td>22.49</td>
<td>3.82</td>
<td>22.70</td>
<td>5.49</td>
<td>19.33</td>
<td>5.19</td>
<td>14.84**</td>
<td>.09</td>
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</table>

Procrastination Assessment Scale-Students

| Frequency                          |                                  |                                   |                             | 31.20 | 7.05  | 33.82 | 7.00  | 35.36 | 5.60  | 9.88**| .06    |
| Fear of Failure                    |                                  |                                   |                             | 8.93  | 4.32  | 12.72 | 4.81  | 10.31 | 4.09  | 11.57**| .07    |
| Aversiveness                       |                                  |                                   |                             | 8.69  | 3.05  | 10.37 | 2.99  | 10.09 | 2.82  | 5.93**| .04    |

Academic Self-Efficacy Scale

|                                  |                                  |                                   |                             | 8.88  | .86   | 8.33  | 1.00  | 8.27  | .95   | 9.02**| .06    |

Marlowe-Crowne Social Desirability Scale

|                                  |                                  |                                   |                             | 15.82 | 5.97  | 15.00 | 4.56  | 14.89 | 4.70  | .77    | .01    |

*$p<.05$, **$p<.01$.  

Table 4.2: Means, Standard Deviations, and Perfectionism Group Comparisons on the Almost Perfect Scale-Revised, Procrastination Assessment Scale-Students, Academic Self-Efficacy Scale, and Marlowe-Crowne Social Desirability Scale.
4.4 Correlational Analysis

Pearson $r$ correlation coefficients among all measures and for all participants are presented in Table 4.4. As hypothesized, the Standards factor for the Almost Perfect Scale-Revised was significantly correlated with Academic Self-Efficacy ($r = .16, p<.01$). Additionally, Standards was negatively correlated with Procrastination Frequency ($r = -.26, p<.01$). These results provide support for the contention that Standards represents the adaptive dimension of perfectionism (Slaney et al., 2001). Although the Order subscale was not used to distinguish between types of perfectionists, it still remains an important dimension of perfectionism (Slaney et al., 2001) and was included in analysis. Order was significantly and inversely correlated with Procrastination Frequency ($r = -.31, p<.01$) and task aversiveness ($r = -.12, p<.05$). Significant correlations were found between the Discrepancy subscale of perfectionism and Procrastination Frequency ($r = .24, p<.01$) and between Discrepancy and the Aversiveness of the Task reason for procrastination ($r = .19, p<.01$). Discrepancy was also correlated with the Fear of Failure reason of the Procrastination Assessment Scale-Students ($r = .41, p<.01$). Additionally, Discrepancy and Academic Self-Efficacy were significantly but inversely correlated with each other ($r = -.18, p<.01$). This pattern of results provides support for the claim that Discrepancy represents the maladaptive dimension of perfectionism (Slaney et al., 2001). As hypothesized, Academic Self-Efficacy and Procrastination were negatively correlated ($r = -.22, p<.01$). Academic Self-Efficacy was also negatively correlated with Fear of Failure ($r = -.18, p<.01$) and Aversiveness of the Task ($r = -.12, p<.05$).
<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Standards</td>
<td>-.02</td>
<td>.45**</td>
<td>-.26**</td>
<td>.04</td>
<td>-.08</td>
<td>.16**</td>
<td>.14*</td>
<td></td>
</tr>
<tr>
<td>2. Discrepancy</td>
<td>.05</td>
<td>.24**</td>
<td>.41**</td>
<td>.19**</td>
<td>-.18**</td>
<td>.19**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.31**</td>
<td>.13*</td>
<td>-.12*</td>
<td>.11</td>
</tr>
<tr>
<td>4. Procrastination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.08</td>
<td>.29**</td>
<td>-.22**</td>
</tr>
<tr>
<td>Frequency</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>.25**</td>
</tr>
<tr>
<td>5. Fear of Failure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.18**</td>
<td>-.18**</td>
<td>-.04</td>
</tr>
<tr>
<td>6. Task Aversiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.12*</td>
<td>.31**</td>
</tr>
<tr>
<td>7. Academic Self-Efficacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.20**</td>
</tr>
<tr>
<td>8. Social Desirability</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

N=800  
*p<.05, **p<.01.

Table 4.3: Overall Correlations Among Measures of Multidimensional Perfectionism (Standards, Discrepancy, Order), Procrastination Frequency, Reasons for Procrastination (Fear of Failure, Aversiveness of Task), Academic Self-Efficacy, and Socially Desirable Responding
4.5 *Regression Analysis*

Multiple linear regression analyses were performed to examine what variables predicted procrastination frequency. Results are presented in Table 4.4. The full model including the main effects of Standards, Discrepancy, and Academic Self-Efficacy was statistically significant ($F(3, 296) = 16.70, p<.01$) in predicting procrastination frequency. This model accounted for approximately 15% of the variance in self-reported procrastination. Standards, Discrepancy, and Academic Self-Efficacy predicted a significant amount of the unique variance in procrastination ($\beta = -.24, p<.01; \beta = .21, p<.01$; and $\beta = -.15, p<.01$, respectively).

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>$\beta$</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standards</td>
<td>-.25</td>
<td>.06</td>
<td>-.24**</td>
<td>-4.35</td>
</tr>
<tr>
<td>Discrepancy</td>
<td>.09</td>
<td>.02</td>
<td>.21**</td>
<td>3.84</td>
</tr>
<tr>
<td>Academic Self-Efficacy</td>
<td>-.95</td>
<td>.36</td>
<td>-.15**</td>
<td>-2.64</td>
</tr>
</tbody>
</table>

$N=300$

**$p<.01$.**

Table 4.4: Results of Regression Analysis Predicting Procrastination Frequency from Standards, Discrepancy, and Academic Self-Efficacy.
CHAPTER 5

DISCUSSION

The purpose of the present study was to examine the relationships among dimensions of perfectionism, academic self-efficacy, and procrastination on academic tasks. This study investigated differences among groups of Adaptive perfectionists, Maladaptive perfectionists, and Non-perfectionists. Results found significantly different levels of academic self-efficacy, frequency of procrastination, and reasons for engaging in procrastination among the groups. Specifically, Adaptive perfectionists reported less procrastination than did Non-perfectionists. In contrast, Maladaptive perfectionists on average reported engaging in procrastination more frequently than Adaptive perfectionists but less frequently than Non-perfectionists. However, these differences between Maladaptive perfectionists and the other groups were not significant. These results are not consistent with the hypothesis that Maladaptive perfectionists procrastinate on academic tasks more frequently than both Adaptive perfectionists and Non-perfectionists. Rather, these results suggest that while maladaptive perfectionism has been found to be destructive in previous studies (Rice & Slaney, 2002; Slaney, Rice, & Ashby, 2002), it may not be damaging with regard to more frequent procrastination in university students.

However, examination of reasons for engaging in procrastination found that Maladaptive perfectionists differed from both Adaptive perfectionists and Non-
perfectionists in their self-reported reasons for engaging in procrastination. Maladaptive perfectionists indicated that they procrastinated on academic tasks due to Fear of Failure at higher rates than did the other groups. That is, in comparison to both Adaptive perfectionists and Non-perfectionists, Maladaptive perfectionists were more likely to procrastinate due to their anxiety about meeting others' expectations, concern about meeting their own standards, and lack of self-confidence in their abilities (Solomon & Rothblum, 1984). This association between Maladaptive perfectionism and Fear of failure is consistent with this study's hypothesis and with the operationalization of Maladaptive perfectionists (i.e. perfectionists characterized by the possession of high personal standards and a high level of concern over the discrepancy between their standards and their actual performance). These individuals may be more likely use procrastination as a means to avoid tasks that test their abilities and that may potentially find them lacking.

With regard to the second main reason for procrastination, Task Aversiveness, only partial support was found for the hypothesis that Maladaptive perfectionists procrastinate due to aversiveness of the task at higher levels than do Adaptive perfectionists and Non-perfectionists. Results of one-way ANOVA found that Adaptive perfectionists were significantly less likely to report procrastinating due to task aversiveness and laziness in comparison to Maladaptive perfectionists and Non-perfectionists. However, both Maladaptive perfectionists and Non-perfectionists endorsed this reason for procrastination at similar rates.

This study also hypothesized that Adaptive perfectionists, Maladaptive perfectionists, and Non-perfectionists would be characterized by different levels of
academic self-efficacy. Partial support was found for this hypothesis. Adaptive perfectionists reported higher levels of academic self-efficacy than both Maladaptive perfectionists and Non-perfectionists. That is, Adaptive perfectionists indicated more confidence in their abilities to master academic tasks such as note-taking, class concentration, memorization, and explaining concepts. In contrast, Maladaptive perfectionists and Non-perfectionists reported levels of academic self-efficacy that were lower than those reported by Adaptive perfectionists but that were similar to each other. These results did not support Burns’ (1980) argument that perfectionism is associated with lower levels of self-efficacy. Having high personal standards (the primary criterion by which perfectionists were operationalized in this study) did not seem to have a harmful effect on academic self-efficacy. Thus, while a number of studies (Rice & Slaney, 2002; Slaney et al., 2001) have found that maladaptive perfectionists is problematic or harmful, the present study suggests that this may not be the case with academic self-efficacy for university students. Additionally, these patterns of relationships among adaptive and maladaptive perfectionism and the other variables of interest provide further support for the contention that perfectionism is multidimensional (Frost et al., 1990; Hamachek, 1978; Hewitt & Flett, 1991; Slaney et al., 2001).

In addition to finding significant differences among groups of Adaptive perfectionists, Maladaptive perfectionists, and Non-perfectionists, results of correlational analysis also provide support for Slaney et al.’s (2001, 2002) conceptualization of multidimensional perfectionism as assessed by the subscales of the Almost Perfect Scale-Revised. As hypothesized, a significant relationships was found between the Standards subscale of the Almost Perfect Scale-Revised and academic self-efficacy. However, due
to the large sample size, this finding holds little practical significance ($r = .16$) according to Walsh and Betz (2001). Additionally, a significant negative relationship was found between Standards and frequency of procrastination. Having high standards for one's performance is associated with greater confidence in one's ability to master academic tasks and less procrastination. Furthermore, non-significant relationships were found between Standards and the two reasons for procrastination: fear of failure and task aversiveness.

In contrast, the Discrepancy subscale of the APS-R was significantly related to procrastination frequency, fear of failure, and task aversiveness. Additionally, Discrepancy and academic self-efficacy were significantly but negatively correlated. Although these correlations with Discrepancy are statistically significant ($r = .23$ for procrastination frequency; $r = .19$ for task aversiveness; $r = .41$ for fear of failure; $r = -.18$ for academic self-efficacy), only the relationship between Discrepancy and fear of failure is practically significant in a sample of this size (Walsh & Betz, 2001). These results also provide support for Slaney et al.'s (2001) contention that Standards represents the positive dimension of perfectionism while Discrepancy captures perfectionism's negative quality.

Limitations

Although this study found significant results, several limitations apply to these findings. One limitation of this study is that fact that the participants included were primarily Caucasian (85%), female (70%), young ($M = 18.74$, $SD = 2.25$), and in their first year of university (84%). Therefore the results may not generalize well to individuals from different racial or ethnic backgrounds or age groups. Additionally, increased age
and years in school have been associated with decreased procrastination (Beswick, Rothblum, & Mann, 1988). Due to the limited number of older participants and participants beyond their first year of university, it was not possible to assess for any effects of age or year.

An additional limitation is related to the methodology used to distinguish the types of perfectionists. Although this method has been used in a number of previous studies (Ashby & Kottman, 1996; Kottman & Ashby, 1999; LoCicero & Ashby, 2000) and has resulted in findings consistent with the ideas and expectations central to the development of the Almost Perfect Scale-Revised, the delimitations used (i.e. the 66th percentile of the Standards subscale and the median split of the Discrepancy subscale) to assign participants to groups are relatively arbitrary. Additionally, this method also excludes the Order subscale, which has been found to be factor relevant to perfectionism (Frost et al., 1990, Slaney & Ashby, 1996; Slaney et al., 2000).

A further limitation concerns the general method used in this research. This study employed regression analysis to predict procrastination frequency. While the results indicate that Standards, Discrepancy, and Academic Self-Efficacy predict a significant amount of variance in procrastination, this study did not manipulate any variables and therefore cannot make any claims of causation. Further analysis might utilize path analysis or an experimental manipulation to attempt to understand the causal pathways of this finding.

Implications for Counseling

The results of the present study suggest that counselors working with clients who are perfectionistic procrastinators may approach treatment to reduce procrastination in a
number of ways. One possibility for reducing procrastination might involve increasing clients' self-efficacy to master specific tasks. Helping clients increase their confidence in their abilities to perform activities at desired levels may lead to greater likelihood that these individuals will approach those activities rather than avoid them, persist for longer periods, and perform better. Alternately, a counselor might work with clients to reduce their concern for any discrepancy between their high personal standards and their actual performance. This approach emphasizes altering the client’s perception of the discrepancy rather than lowering their standards for achievement. The results of the present study seem to indicate that having high personal standards is not related to the problematic aspects of perfectionism.

Directions for Future Research

The previously stated limitations lead logically to suggestions for future research. For example, future studies using more diverse samples in terms of race, ethnicity, gender, and age would prove valuable in understanding how multidimensional perfectionism, academic self-efficacy, and procrastination operate in other populations and determine if the results observed in the present study can be generalized to these groups. Additionally, perfectionism may be studied with more general measures of self-efficacy and procrastination to determine if similar relationships exist outside of the academic domain.

Despite the limitations of this study, significant results were obtained. The findings of the current study expand the literature by using a measure of multidimensional perfectionism and relating adaptive and maladaptive perfectionism to academic self-efficacy, procrastination frequency, and reasons for procrastination. Although perfectionism has
previously been studied in association with procrastination and self-efficacy, these variables have not been combined in a single study. Additionally, none of these previous studies of perfectionism and procrastination have operationally defined multidimensional perfectionism using the Almost Perfect Scale-Revised developed by Slaney and his colleagues (2001). Unlike other conceptualizations of perfectionism (e.g. Frost et al., 1990; Hewitt & Flett, 1991) which depict perfectionism as multidimensional but detrimental, Slaney et al.’s (2001) depiction of perfectionism emphasizes both its positive and negative qualities. As demonstrated in the present study, these adaptive and maladaptive dimensions of perfectionism have dramatically different associations with individual’s beliefs about their abilities to perform academic tasks, their tendencies to engage in academic procrastination, and their reasons for procrastinating.
LIST OF REFERENCES


APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE
Demographic Questionnaire

Please provide the following information by filling in the blank or circling the appropriate response. If you do not feel comfortable providing any of these details, please leave the space blank.

Age: _______

Gender: Female Male

Year in School: Freshman Sophomore Junior Senior

Race/Ethnicity (more than one option may be selected):

Caucasian/White African-American/Black
Hispanic/Latino(a) Asian/Asian Pacific Islander
Other ____________________________
APPENDIX B

ALMOST PERFECT SCALE-REVISED

(APS-R; SLANEY, RICE, MOBLEY, TRIPPI, & ASHBY, 2001)
APS-R Short Form

Instructions

The following items are designed to measure attitudes people have toward themselves, their performance, and toward others. There are no right or wrong answers. Please respond to all of the items. Use your first impression and do not spend too much time on individual items in responding.

Respond to each of the items using the scale below to describe your degree of agreement with each item. Fill in the appropriate number circle on the computer answer sheet that is provided.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>Slightly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Agree</td>
</tr>
</tbody>
</table>

1. I have high standards for my performance at work or at school.
2. I am an orderly person.
3. I often feel frustrated because I can’t meet my goals.
4. Neatness is important to me.
5. If you don’t expect much out of yourself, you will never succeed.
6. My best just never seems to be good enough for me.
7. I think things should be put away in their place
8. I have high expectations for myself.
9. I rarely live up to my high standards.
10. I like to always be organized and disciplined.
11. Doing my best never seems to be enough.
12. I set very high standards for myself.
13. I am never satisfied with my accomplishments.
15. I often worry about not measuring up to my own expectations.
16. My performance rarely measures up to my standards.
1. Strongly Disagree
2. Slightly Disagree
3. Slightly Disagree
4. Neutral
5. Agree
6. Agree
7. Strongly Agree

17. I am not satisfied even when I know I have done my best.
18. I try to do my best at everything I do.
19. I am seldom able to meet my own high standards of performance.
20. I am hardly ever satisfied with my performance.
21. I hardly ever feel that what I’ve done is good enough.
22. I have a strong need to strive for excellence.
23. I often feel disappointment after completing a task because I know I could have done better.
APPENDIX C

PROCRASTINATION ASSESSMENT SCALE-STUDENTS

(PASS; SOLOMON & ROTHBLUM, 1984)
Areas of Procrastination

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

I. WRITING A TERM PAPER

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

<table>
<thead>
<tr>
<th>Never Procrastinate</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always Procrastinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Not At All a Problem</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always a Problem</th>
<th>Always a Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Do Not Want to Decrease</th>
<th>Somewhat Want to Decrease</th>
<th>Definitely Want to Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>d</td>
<td>e</td>
<td></td>
</tr>
</tbody>
</table>

II. STUDYING FOR EXAMS

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

<table>
<thead>
<tr>
<th>Never Procrastinate</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always Procrastinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Not At All a Problem</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always a Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

79
6. To what extent do you want to decrease your tendency to procrastinate on this task?

<table>
<thead>
<tr>
<th>Do Not Want to Decrease</th>
<th>Somewhat</th>
<th>Definitely Want to Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
</tbody>
</table>

### III. KEEPING UP WITH WEEKLY READING ASSIGNMENTS

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

<table>
<thead>
<tr>
<th>Never Procrastinate</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always Procrastinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Not At All a Problem</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always a Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Do Not Want to Decrease</th>
<th>Somewhat</th>
<th>Definitely Want to Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
</tbody>
</table>

### IV. ACADEMIC ADMINISTRATIVE TASKS: FILLING OUT FORMS, REGISTERING FOR CLASSES, GETTING ID CARD

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

<table>
<thead>
<tr>
<th>Never Procrastinate</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always Procrastinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Not At All a Problem</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always a Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>
12. To what extent do you want to decrease your tendency to procrastinate on this task?

<table>
<thead>
<tr>
<th>Do Not Want to Decrease</th>
<th>Somewhat</th>
<th>Definitely Want to Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
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<td>d</td>
<td>e</td>
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</tbody>
</table>

V. ATTENDANCE TASKS: MEETING WITH YOUR ADVISOR, MAKING AN APPOINTMENT WITH A PROFESSOR

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

<table>
<thead>
<tr>
<th>Never Procrastinate</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always Procrastinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Not At All a Problem</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always a Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Do Not Want to Decrease</th>
<th>Somewhat</th>
<th>Definitely Want to Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td></td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

VI. SCHOOL ACTIVITIES IN GENERAL

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

<table>
<thead>
<tr>
<th>Never Procrastinate</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always Procrastinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Not At All a Problem</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Nearly Always</th>
<th>Always a Problem</th>
</tr>
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18. To what extent do you want to decrease your tendency to procrastinate on this task?

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<th>Do Not Want to Decrease</th>
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<th>Definitely Want to Decrease</th>
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**Reasons for Procrastination**

Think of the last time the following situation occurred. It's near the end of the semester. The term paper you were assigned at the beginning of the semester is due very soon. You have not begun work on this paper. There are reasons why you have been procrastinating on this task.

Rate each of the following reasons on a 5-point scale according to how much it reflects why you procrastinated at the time. Mark your answers on your answer sheet.

**Use the scale:**

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19. You were concerned the profession wouldn't like your work.

20. You waited until a classmate did his or hers, so that he/she could give you some advice.

21. You had a hard time knowing what to include and what not to include in your paper.

22. You had too many other things to do.

23. There's some information you needed to ask the professor, but you felt uncomfortable approaching him/her.

24. You were worried you would get a bad grade.

25. You resented having to do things assigned by others.
26. You didn't think you knew enough to write the paper.
27. You really disliked writing term papers.
28. You felt overwhelmed by the task.
29. You had difficulty requesting information from other people.
30. You looked forward to the excitement of doing this task at the last minute.
31. You couldn't choose among all the topics.
32. You were concerned that if you did well, your classmates would resent you.
33. You didn't trust yourself to do a good job.
34. You didn't have enough energy to begin the task.
35. You felt it just takes too long to write a term paper.
36. You liked the challenge of waiting until the deadline.
37. You knew that your classmates hadn't started the paper either.
38. You resented people setting deadlines for you.
39. You were concerned you wouldn't meet your own expectations.
40. You were concerned that if you got a good grade, people would have higher expectations of you in the future.
41. You waited to see if the professor would give you some more information about the paper.
42. You set very high standards for yourself and you worried that you wouldn't be able to meet those standards.
43. You just felt too lazy to write a term paper.
44. Your friends were pressuring you to do other things.

Interest in Changing Your Procrastination
45. Would you be interested in attending a program that focuses on overcoming procrastination if such a program were offered next semester?
   a. no
   b. yes

46. How many program sessions in total would you be willing to attend if a procrastination program were offered?
   a. none
   b. less than five
   c. five to ten
   d. more than ten

47. How many sessions per week would you be willing to attend?
   a. none
   b. one
   c. two
   d. three

48. What time would be the best for you in scheduling such a program? (Choose one)
   a. none
   b. morning
   c. lunchtime
   d. afternoon
   e. evening

49. What days would be the best for you in scheduling such a program? (Choose one)
   a. no days are good
   b. weekdays
   c. weekends

50. How large a group would you prefer? (Choose one)
    a. I'm not interested in such a program
    b. less than 10 people in a group
    c. 10-20 people in a group
    d. It doesn't matter how large the group is

51. I feel that a program to improve procrastination habits would be:
    a. unnecessary
    b. somewhat useful
    c. extremely useful
    d. useful, but not for me

52. What format would be most interesting to you? (Choose one)
    a. I'm not interested in such a program
b. Group discussion
c. Lecture
d. Following a written manual
e. A combination of the above
APPENDIX D

ACADEMIC SELF-EFFICACY SCALE (ASE; WOOD & LOCKE, 1987)
Read this page carefully. Do not turn over the page until you are instructed to do so

The questions in this booklet ask about your perceptions of your ability to perform various academic tasks, such as reading, note taking and memorization. For each of the tasks you are asked to make two judgements about your ability to perform at varying levels of difficulty.

(1) Could you perform the task at the level of difficulty described if you wanted to? If your answer to this question is yes, then enter “Y” in the CAN DO column. If it is no, enter an “N” in that column.

(2) How confident are you about your ability to perform at that task level? If in the next few days you were given a test of your ability to perform the task, how confident are you that you could perform at the level described?

Indicate your degree of confidence by entering 0 to 10 in the CONFIDENCE column, based on the following confidence scale.

Level of Confidence

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SAMPLE ITEMS

Now consider some sample items. The first asks about assigned reading in the main text for this course. For this item we have filled in a hypothetical student’s answers for you to illustrate the use of the scale.

READING ASSIGNED PAGES IN TEXTBOOK

1. Read at least ½ of assigned material
2. Read all of assigned material once
3. Read all of assigned material twice
4. Read all of assigned material five times

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Note that this student is sure s/he can read all the material at least once, but is less confident she can read it twice (7 vs 10). S/He does not think s/he could read it five times (no time? boredom?).

Now answer the next item on your own.

LIFTING – ability to lift weights from a floor

1. Lift a 5lb box
2. Lift a 20lb box
3. Lift an 80lb box
4. Lift a 300lb box

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REMEMBER THE COURSE IN WHICH THIS QUESTIONNAIRE IS BEING ADMINISTERED IS THE ONE YOU SHOULD THINK OF WHEN ANSWERING THE FOLLOWING QUESTIONS.
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CLASS CONCENTRATION

The proportion of class periods for which you feel you are able to concentrate and stay fully focused on the materials being presented.

1. Concentrate for at least 50% of a class period  
2. Concentrate for at least 70% of a class period  
3. Concentrate for at least 90% of a class period  
4. Concentrate for 100% of a class period

MEMORIZATION

The proportion of facts and concepts covered in the course that you feel you are able to memorize and recall on demand (e.g. exam time, in response to questions).

1. Memorize 60% of the facts and concepts  
2. Memorize 70% of the facts and concepts  
3. Memorize 80% of the facts and concepts  
4. Memorize 90% of the facts and concepts  
5. Memorize 100% of the facts and concepts
Level of Confidence

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EXAM CONCENTRATION

The proportion of time during exams for which you feel you are able to focus exclusively on understanding and answering questions and avoid breaks in your concentration.

1. Stay focused on the exam for 50% of the time
2. Stay focused on the exam for 70% of the time
3. Stay focused on the exam for 90% of the time
4. Stay focused on the exam for 100% of the time

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UNDERSTANDING

The proportion of facts, concepts and arguments covered in the course that you feel you understand as they are presented in lectures, tutorials or course materials (e.g. textbooks, assigned articles).

1. Understand 50% of concepts as presented
2. Understand 70% of concepts as resented
3. Understand 90% of concepts as presented
4. Understand 100% of concepts as presented

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Level of Confidence

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    Totally
    Unconfident

    Moderately
    Confident

    Totally
    Confident

EXPLAINING CONCEPTS

The proportion of facts, concepts and arguments covered in the course (i.e. in lectures, tutorials or course materials) that you feel you are able to explain clearly to others in your own words.

1. Explain 40% of the concepts, etc. in my own words
2. Explain 60% of the concepts, etc. in my own words
3. Explain 80% of the concepts, etc. in my own words
4. Explain 100% of the concepts, etc. in my own words

CAN DO

CONFIDENCE


DISCRIMINATING BETWEEN CONCEPTS

The degree to which you feel you are able to discriminate between the more important and less important facts, concepts and arguments covered in the course (i.e. in lectures, tutorials and course materials).

1. Able to identify the most important concepts, points, etc. 50% of the time
2. Able to identify the most important concepts, points, etc. 70% of the time
3. Able to identify the most important concepts, points, etc. 90% of the time
4. Able to identify the most important concepts, points, etc. 100% of the time

CAN DO

CONFIDENCE


 
Level of Confidence

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NOTE-TAKING

The proportion of the time that you feel you are able to make understandable course notes which emphasize, clarify and relate key facts, concepts and arguments as they are presented in lectures, tutorials or course materials.

1. Make understandable notes for 50% of the material
2. Make understandable notes for 70% of the material
3. Make understandable notes for 90% of the material
4. Make understandable notes for 100% of the material

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GRADES

The degree to which you feel you have the necessary skills to get various grades in this course, assuming that you try.

1. Get an A in this course
2. Get at least a high B in this course
3. Get at least a low B in this course
4. Get at least a C in this course

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APPENDIX E

SOCIAL DESIRABILITY SCALE (SDS ; CROWNE & MARLOWE, 1960)
Listed below are statements concerning your attitudes, traits, and tendencies. Read each item and decide whether the statement is true or false as it pertains to you.

1 = TRUE
2 = FALSE

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.
14. I can remember "playing sick" to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit it when I make a mistake.
17. I always try to practice what I preach.
18. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people.
19. I sometimes try to get even, rather than forgive and forget.
20. When I don't know something I don't at all mind admitting it.
21. I am always courteous, even to people who are disagreeable.
22. At times I have really insisted on having things my own way.
23. There have been occasions when I felt like smashing things.
24. I would never think of letting someone else be punished for my wrongdoings.
25. I never resent being asked to return a favor.
26. I have never been irked when people expressed ideas very different from my own.
27. I never make a long trip without checking the safety of my car.
28. There have been times when I was quite jealous of the good fortune of others.
29. I have almost never felt the urge to tell someone off.
30. I am sometimes irritated by people who ask favors of me.
31. I have never felt that I was punished without cause.
32. I sometimes think when people have a misfortune they only got what they deserved.
33. I have never deliberately said something that hurt someone's feelings.