Spring 5-15-2022

Fear of Failure, Mindfulness, and Procrastination

Jose M. Parlade
Pittsburg State University, jparlade@gus.pittstate.edu

FEAR OF FAILURE, PROCRASINATION, AND MINDFULNESS

A Thesis Submitted to the Graduate School
In Partial Fulfillment of the Requirements
for the degree of
Master of Science

Jose M. Parlade, B.S.

Pittsburg State University

Pittsburg, Kansas

June, 2021

FEAR OF FAILURE, PROCRASINATION, AND MINDFULNESS

Jose M. Parlade

APPROVED:

Thesis Advisor

Dr. Jan Smith, Ph.D., Dept. of Psychology and Counseling

Committee Member

Dr. Cebrail Karayigit, Ph.D., Dept. of Psychology and Counseling

Committee Member

Dr. Brad Cameron, Ph.D., Dept. of History, Philosophy,
and Social Sciences

ACKNOWLEDGEMENTS

I would like to thank Dr. Smith and Dr. Hurford for the amazing support and guidance they provided. Their dedication to helping and mentoring others, like myself, was indispensable to this process. I am also thankful to Dr. Karayigit, Dr. Wood, and Dr. Cameron for their support and interest in this project.

FEAR OF FAILURE, PROCRASINATION, AND MINDFULNESS

An Abstract of the Thesis by
Jose M. Parlade

Procrastination is a complex behavior with often negative consequences. Prior studies have found a positive correlation between procrastination and various negative emotional states, such as fear of failure. Conversely, specific mindfulness techniques, have been negatively associated with procrastination in prior research. The current study set out to examine the correlations of fear of failure and procrastination as well as those of mindfulness and procrastination. A sample of university students (n=310) were assessed using three scales: the Performance Failure Appraisal Inventory (PFAI), the Kentucky Inventory of Mindfulness Skills (KIMS), and the Pure Procrastination Scale (PPS). Results indicated a significant positive correlation between total fear of failure and total procrastination; total fear of failure and decisional procrastination; total fear of failure and timeliness/lateness; fear of important others losing interest and total procrastination; fear of important others losing interest and timeliness/lateness; fear of having an uncertain future and timeliness/lateness; and fear of experiencing shame or embarrassment and total procrastination. Findings indicated a significant negative correlation between acting with awareness and total procrastination; acting with awareness and delay in implementation; and describing and decisional procrastination. These findings support the view that, overall, fear of failure and procrastination are positively correlated and mindfulness and procrastination are inversely correlated. They point to further research being needed relative to whether mindfulness can play an intermediary role between the experience of fear of failure and procrastinatory behavior.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

FIGURE PAGE

CHAPTER I

INTRODUCTION

Procrastination is a behavior that most, if not all, individuals have exhibited at some point in their lives. It can take many forms and serve many purposes. For example, procrastination can be a coping strategy for those looking to decrease goal-directed anxiety, as in the example of a student that postpones studying for a test because of a fear of failing. It can also be a temporary comfort to those looking to avoid an unpleasant task, as with an employee that prolongs working on a task he or she dislikes. Despite situational differences in its characteristics, procrastination is a purposeful behavior that acts as an obstacle to an important process or objective.

Procrastination can be defined as a voluntary attempt, through behavioral/overt or decisional/covert means, to delay an important act one intends to start or complete (Brownlow & Reasinger, 2000). Research by Chun Chu and Choi (2005) has suggested that procrastination can be differentiated into passive and active types. Passive procrastination involves a delay not strategic to starting or completing a task, is carried out despite one's knowledge of its consequences, and is accompanied or followed by discomfort or negative consequences (Klingsieck, 2013). Active procrastination, which is sometimes referred to as strategic delay or functional delay, is a conscious decision on the part of an individual to delay a task as a strategy. It is usually carried out when an

individual feels he or she performs better at a task when under pressure, and it is not associated with many of the same negative consequences as passive procrastination (Chun Chu & Choi, 2005). Other researchers have suggested a separate kind of procrastination, rational procrastination. Rational procrastination is the delay of a task that will likely not need to be completed or has high costs associated with its completion in a timely manner (Ferrari, Johnson, & McCown, 1995). Active procrastination and rational procrastination have similar functional utility, whereas passive procrastination does not have functional utility. The scope of this study will extend to passive procrastination rather than active procrastination or rational procrastination. Therefore, most mentions of the term "procrastination" in this study will implicitly refer to passive procrastination.

Procrastination can occur in the context of actual actions being delayed or in the context of decisions being made. Task procrastination is a term used to describe a voluntary attempt to delay or avoid a specific task. Decisional procrastination is a term used to describe a delay in making significant and/or insignificant decisions in a timely manner. Chronic forms of decisional procrastination and task procrastination have been correlated with negative characteristics. For example, decisional procrastination has been correlated with high boredom proneness and low self-esteem (Ferrari, 2000). This study will not be limited to the study of one type of procrastination, either decisional or task. It will instead measure procrastination using an instrument that measures both decisional and task procrastination. Considering both forms of procrastination will allow for a more comprehensive view of procrastination without discounting any one potentially distressing form of procrastination.

The different targets of procrastination, or the things being avoided, have also been used to differentiate between kinds of procrastination. Four different kinds of procrastination have been identified: academic, life routine, decisional, and compulsive. Academic procrastination is the procrastination of school-related tasks. Life routine procrastination is the delay of scheduling and carrying out activities related to everyday life routines. Compulsive procrastination is the general tendency to engage in both decisional procrastination and task procrastination (Milgram & Tenne, 2000). Academic procrastination will be an important consideration for this study considering participants are university students. However, limiting the scope of this study to academic procrastination may discount other equally or more distressing kinds of procrastination. A more comprehensive view of procrastination may additionally add more practical, everyday significance to findings rather than limiting them to academic concerns. Due to this, the instrument selected to measure procrastination will consider various targets of procrastination.

Procrastination is an important concept to study not only because of its impact on task completion but also because of those factors to which it is related. Various distressing emotional states and personal characteristics have been associated with procrastination. For example, trait procrastination, or the disposition to procrastinate, has been correlated with greater perceived stress, fewer wellness behaviors, and poorer physical health (Sirois, 2007). A relationship between procrastination and perfectionism has also been observed. Individuals with higher levels of self-critical perfectionism have been found to be more likely to engage in procrastination and other maladaptive coping strategies than those with lower levels (Athulya, Sudhir, & Philip, 2016). Additionally, a

study by Klibert, LeLeux-LaBarge, Tarantino, Yancey, & Lamis (2016) found a significant correlation between procrastination and suicide proneness. These correlations likely point to alarming relationships between procrastination and dysfunction that extend deeper than only its visible effects on task-completion or performance. This is not to say the effect of procrastination on performance is negligible. Passive procrastination has been found to have a moderately negative correlation with academic performance, revealing a relationship between procrastination and academic outcomes (Kármen et al., 2015).

Fear of failure is an emotional and cognitive reaction often experienced not only in academic settings but in other contexts as well. The primary concern for those experiencing fear of failure is the possibility of failing at a task in the future (Mahone, 1960). This concern is more salient than the desire to potentially approach success. Some research has explored this aspect of fear of failure and compared it with procrastination, positing that this fear might be related to delays in approaching or completing tasks.

Self-worth theory provides an interesting perspective on the role of fear of failure. This theory posits individuals' desire for self-acceptance can bring about an approach orientation toward success or an avoidance orientation away from failure. Threats to self-worth are dealt with in primarily two manners: defensive pessimism and self-handicapping. Defensive pessimism signifies holding low expectations for oneself to avoid feelings of anxiety or disappointment whereas self-handicapping signifies devising situations or behaviors counterproductive to a goal in order to later consider these factors excuses should failure occur. The latter strategy is especially relevant to procrastination since the act of procrastination itself can be interpreted as a self-handicapping strategy.

Individuals may consciously or unconsciously procrastinate so that, in the event they fail at a task, they can blame their failure on not having committed enough time to prepare for the task rather than on their own abilities. Indeed, cross-cultural research reveals a relationship between fear of failure and maladaptive self-handicapping strategies, such as procrastination, especially when firm achievement goals are not present (De Castella, Byrne, & Covington, 2013).

Additionally, fear of failure may be understandable in the scope of temporal motivation theory. This theory posits there are five elements one considers when pursuing a goal: time, expectancy, value, reinforcement, and punishment. According to this theory, each of these considerations interact with one another. Those goals that lead to the most motivation are those that are temporally near and for which someone has a high chance of success (i.e., expectancy). This is characterized by an outcome that is valuable and reinforcing (Steel & König, 2006). Temporal motivation theory can be interpreted as being a theory of motivation for goal-pursuit that balances predicted costs and benefits of pursuit. Fear of failure is considered a factor that adds to the predicted costs of pursuing a goal because of the personal cost of possibly failing (Zarick & Stonebraker, 2009). Fear of failure reduces the value and reinforcement-related properties of a goal and adds an immediate sense of punishment when one thinks of or attempts to pursue a goal. This punishment takes the form of anxiety or fear related to failing and the intrinsic and extrinsic consequences of failure.

Fear of failure has been suggested as leading to procrastination. Research has found that procrastination can be predicted on the basis of low self-reported feelings of hope and high fear of failure but not on the basis of low hope and high task-aversiveness

(Alexander & Onwuegbuzie, 2007). This extends understandings garnered from the temporal decision model and implies that fear of failure may have a more central role than task aversiveness in predicting procrastination when certain conditions (namely, low hope) are present. Separate research has suggested that, individually, goal characteristics of task aversiveness and feelings of fear of failure have been associated with higher levels of procrastination (Rothblum, Solomon, & Murakami, 1986). It has also suggested participants were most likely to report fear of failure as a reason for task delay tendencies (Solomon & Rothblum, 1984). Even within the field of psychotherapy, fear of failure has long been recognized as a fundamental characteristic of some clients engaging in procrastination (Milgram, 1987; Beery, 1975).

Other research has failed to find a relationship between fear of failure and procrastination. Research by Schouwenburg (1992) found that fear of failure presented behaviorally and procrastination presented behaviorally were not significantly related. Schouwenburg's research also found that fear of failure was at least not a primary predictor of procrastination. However, this study suggested a correlation between trait fear of failure and procrastination. This may indicate a relationship between these two factors only when fear of failure falls within a certain level (i.e., as a general disposition rather than as recorded behaviors) or may indicate an impact on findings based on differences in fear of failure measurement.

Mindfulness is a state of awareness and attention to the present moment. Mindful behaviors involve continually perceiving internal experiences, such as thoughts or emotions, and/or external events happening in a moment, such as sensations of sight or sound. However, mindfulness does not imply passive perception and instead is an active

process. The practice of mindfulness involves continued attempts to stay grounded in each present moment. It also involves nonjudgment, especially of one's internal experiences (Germer, Siegel, & Fulton, 2005).

Research has supported the view that mindfulness and procrastination are at least indirectly negatively correlated. Specific elements of mindfulness, namely nonreactivity, nonjudging, and describing, have been shown to have an indirect effect on reducing procrastination through a reduction of anxiety (Gautam, Polizzi, & Mattson, 2019). Findings regarding the negative correlation between process focus and procrastination also provide indirect evidence of the impact of mindfulness.

Research has helped elucidate ways in which procrastination might be addressed through different psychotherapeutic modalities and techniques. Some studies have found considerable efficacy in the treatment of procrastination through cognitive-behavioral therapy (CBT) and acceptance and commitment therapy (ACT) approaches (Wang et al., 2017). Large components of these modalities involve attempts at practicing metacognition and awareness. Therefore, they are rooted in clients being mindful and aware of the processes of their own internal experiences.

Process-oriented focus is also somewhat relevant to understandings of mindfulness, procrastination, and how they relate. Process-oriented focus, or process focus, is a cognitive representation of a goal in terms of the processes carried out to achieve the goal (Freund, Hennecke, & Riediger, 2010). An individual striving toward losing weight might have a process focus if he or she is cognitively attending to thoughts of the tasks needed to lose weight, such as the different exercises needing to be completed. Process focus is largely tied to being present and mindful in the moment,

whereas its opposite, goal-oriented focus, consists of thoughts relative to future goals or outcomes. Each kind of focus is not mutually exclusive, as individuals are likely to attend to both process and goal outcomes when pursuing a goal. Additionally, individuals may adopt any individual focus to a greater or lesser degree dependent on the desired goal or the means of acquiring it.

Studies have shown the benefits of process focus in encouraging goal pursuit, especially in academic and health contexts. A study by Pham and Taylor (1999) found that participants asked to imagine studying for an exam studied longer and scored higher on the actual exam compared with participants asked to imagine receiving an exceptional grade or participants in a control group. Despite the scenarios being imagined and therefore not taking place in the present moment, they are related to mindfulness in that they involve conscious attention applied to the process of doing something rather than its result. It should be noted that the longer duration of studying seen in those asked to imagine preparing for the exam is not necessarily indicative of less procrastination (individuals can both procrastinate more and study more). However, it does reflect better academic outcomes for those that focus on processes rather than results. From a health-related context, research by Freund, Hennecke, and Mustafić (2012) found that focusing on dietary behaviors adopted as a means of weight loss was associated with more goal pursuit than focusing on the amount of weight loss. Research by Gautam, Polizzi, and Mattson (2019) has similarly suggested increased awareness of one's present emotional state and environment, described as "acting with awareness," is negatively correlated with procrastination. This awareness of one's present state is much like mindfulness. It is akin to an awareness of task processes in that individuals are present in the moment

rather than thinking of a future outcome. Additional research also indirectly points to process focus as being negatively related to procrastination through its role in self-regulation (Kachgal, Hansen, & Nutter, 2001). Although a component of self-regulation may be long-term planning, which is not present-focused, a more central component is that of actively attending to and regulating one's thoughts, motivations, or behavior. This emphasis on active characteristics is in line with a process-focused perspective because of its emphasis on present cognitions, goals, and behaviors. Additionally, working to improve self-regulation has been proposed as a means of reducing procrastination (Kachgal, Hansen, & Nutter, 2001).

Research has considered process focus from different perspectives. Some studies have considered it almost as a focus on sub-goals that are part of the process of trying to achieve an ultimate goal. For example, participants in a study by Krause and Freund (2016) were asked to rate different statements that were descriptive subgoals of given tasks, such as "to read papers related to my topics." Participants were asked to score each statement relative to how well it represented that goal for them. Process focus as it was measured by this study could be considered the attention given to subgoals (e.g., reading research papers) that might lead an individual closer to a final goal (e.g., writing a thesis) once accomplished. Other studies have defined process-oriented goal focus from more of a perspective of present-mindedness. For example, a study by Kaftan and Freund (2019) had participants rate their level of process-oriented focus by answering "To what extent are you focusing on the activity itself?" using a 7-point rating scale. Process-oriented focus, as it was measured by this study, could then be considered the level of one's task mindfulness, or the degree to which one is fully engaged with what he or she is doing at

the moment. Due to these two distinct perspectives of process focus, this study will relate to mindfulness in order to maintain specificity.

Purpose of the Study

The purpose of the current study is to examine the relationships between fear of failure and procrastination and mindfulness and procrastination. Findings relative to the correlation between fear of failure and procrastination are inconsistent and may point to other characteristics impacting the relationship between these two variables. Additionally, some studies support the view that mindfulness is negatively related to procrastination, but there is a scarcity of research in this respect. Much of the existing research also relates these two variables does so in the context of other considerations, such as self-compassion and performance goals.

Garnering a better understanding of procrastination, mindfulness, and fear of failure has implications for addressing fear of failure, procrastination, and the negative consequences associated with them. The hope for this study is that it stimulate additional research that may reveal ways for those that procrastinate to achieve emotional regulation and positive goal orientations. Through this and continued research, clinical and non-clinical populations might benefit from deeper understandings of common human experiences, like fear of failure and procrastination.

CHAPTER II

REVIEW OF THE LITERATURE

Theories of Motivation and Procrastination

There has been a considerable amount of research aiming at understanding the nature of procrastination and the contexts in which it exists. Additionally, numerous theories of motivation and procrastination have been proposed. Most are not necessarily contradictory but instead elucidate different aspects of these variables. Research by Zhang and Feng (2020) suggests that procrastination can best be understood through a temporal decision model. They suggest that the decision to procrastinate is more likely to occur when task aversiveness outweighs outcome utility, or the perceived value of the future outcome of a task. Additionally, they suggest that this effect is compounded by individuals' tendencies to expect less task aversiveness for tasks scheduled further into the future and to expect increased outcome utility as the outcome is temporally approached, thus reducing the delay of carrying out the task.

Temporal motivation theory (TMT) also attempts to explain procrastination. TMT posits motivation results from considerations of expectancy, value, time, reinforcement, and punishment in that higher levels of motivation are expected when there is greater self-efficacy (expectancy) for completing a task and greater perceived value of the task,

with differences in result depending on levels of task reinforcement and/or punishment (Steel & König, 2006). A related negative correlation between procrastination and self-efficacy has been supported through research showing students with greater confidence in their abilities tend to procrastinate less than those that are less confident (Wolters, 2003). TMT also contends that the perceived value of a task increases as a result of considerations of time (i.e., as the task's deadline approach). It describes procrastination as resulting from differences in these aforementioned factors, specifically positing that procrastination is more likely to occur when a task is less valuable (especially when the task is immediately punishing and only distantly reinforcing) and when the individual to carry out the task exhibits less confidence in being able to succeed (Steel & König, 2006).

Reinforcement Sensitivity Theory (RST) also consider reinforcement and punishment when attempting to explain motivation and procrastination. This theory attempts to explain behaviors and traits as being supported by approach and avoidance behaviors. These behaviors, it posits, result from neurological systems' responses to reward and punishment cues (Bennett & Bacon, 2019; Corr, 2008). A study conducted by Bennett and Bacon (2019) attempted to study procrastination through the perspective of RST. It found that differences in levels of academic procrastination were dependent on participant traits and neurological systems. Greater activation of the Behavioral Inhibition System (BIS), a neuropsychological system sensitive to adverse events and related to avoidance motivation, was associated with general procrastination and impulsiveness. The Behavioral Approach System (BAS), a neuropsychological system sensitive to rewarding events and related to approach motivation, was correlated with certain forms

of procrastination. This was largely due to two factors related to the BAS: Reward Reactivity (RR) and Goal Drive Persistence (GDP). The study found a correlation between procrastination carried out consciously and individuals exhibiting a high level of RR and between procrastination carried out consciously or unconsciously and individuals exhibiting a low level of GDP.

Action control theory similarly attempts to explain motivation and procrastination through approach and avoidance behaviors. It describes task motivation as a competition between one's task-oriented intentions, and internal and competing action tendencies and external features of the environment incompatible with the task (Kuhl, 1984). In other words, it perceives motivation as being a dynamic process in which individuals orient themselves *toward* those things necessary to complete a task and *away from* those things not related to the intended task. This process is initiated when these internal and external obstacles, such as thoughts related to previous failures or obtrusive noises in the environment, are encountered while one is pursuing the intended task (Menec & Schonwetter, 1994). Kuhl's theory proposes six action control strategies, or strategies individuals generally use to protect current task-oriented intentions from competing action tendencies. These strategies are: selective control of attention (i.e., focusing on information specifically related to the intention); encoding control (i.e., encoding information specifically related to the intention); economy of information processing (i.e., limiting the amount of time one considers alternative actions to the one intended); control of emotions (i.e., regulating one's emotions so they are conducive to pursuit of the intended task); motivation control (i.e., strengthening one's motivation to pursue the intended task); and environmental control (i.e., attempting to shape the environment so it

will be conducive to pursuit or attainment of the intended task). Procrastination may, therefore, originate from or be strengthened by the lack of or dysfunction in one or more action control strategies (Kuhl, 1984; Menec & Schonwetter, 1994). Kuhl's (1985) theory also distinguishes between action orientations and state orientations with the former relating to how individuals orient themselves toward the means necessary to approach and complete a task and the latter relating to how individuals orient themselves to their present, past, or future state. State orientation can function almost as competing action tendencies in that they divert attention away from the task and to the present environment, past failures, or future goals or expectations. This observation can be applied to the findings of Krause and Freund (2014) that a process focus leads to less procrastination than an outcome focus if one considers a process focus as being synonymous with action orientation and an outcome focus as being synonymous with state orientation.

Emotional reasons for procrastination have also been proposed. Procrastination has been considered a means for individuals to protect their feelings of self-worth. Especially in academic contexts, individuals may feel they will be negatively evaluated by teachers, their peers, or themselves when they fail at a task. This may lead to feelings of anxiety and guilt about failure or the thought of failing (Rothblum, 1990). A solution to these feelings may be to prepare for a task more continuously or laboriously, but this also brings about a new and more distressing situation: if an individual prepares for a task and still fails, then the reason for failure lies in his or her lack of ability or incompetence. These results may lead to emotional distress extending beyond guilt and into shame and humiliation (Covington & Omelich, 1984). These results may be related to research

showing that students intrinsically motivated to pursue academic goals were less likely to procrastinate than those extrinsically motivated to pursue them (Senecal, Koestner, & Vallerand, 1995). Findings by Cavusoglu and Karatas (2015) offer a different perspective, supporting a view that both intrinsic and extrinsic motivation types negatively affect procrastination though intrinsic motivation had a greater negative effect on procrastination than extrinsic motivation. Later research helped connect understandings of motivational styles, procrastination, and how they relate through findings that extrinsic goal orientations are predisposing factors specifically for shame reactions (Turner, 1998).

Feelings of self-efficacy have also been related to procrastination. The three components of self-efficacy are competence, autonomy, and relatedness. Competence is the belief that one has the characteristics necessary for success and the desire to gain mastery of a task or achieve success. Autonomy is the belief one can bring about change in his or her life and the desire to bring about that change. Relatedness is the desire to feel connected to others (Ryan & Deci, 2000; Patrick & Williams, 2012). These are fundamental concepts of self-determination theory, which posits these variables are essential elements in determining motivation. Research has shown that "need-supportive environments," which address student needs for autonomy, competence, and relatedness, were correlated with reduced procrastination (Katz, Assor, Kanat-Maymon, & Bereby-Meyer, 2006; Katz, Eilot, & Nevo, 2014). Self-efficacy has also been related to procrastination in research showing that it fully mediates the negative correlation between self-oriented perfectionists, or those that hold both themselves and others to exceptionally high standards, and academic procrastination (Seo, 2008). In other words,

self-oriented perfectionists were found to be less likely to procrastinate because of high levels of competence, autonomy, and relatedness.

In summary, various theories and models of procrastination exist. Some models, like the temporal decision model, posit procrastination results when the aversiveness of a task outweighs its perceived value. Some theories, like TMT, describe procrastination as resulting from considerations of expectancy, value, time, reinforcement, and punishment interacting with one another. RST also considers reinforcement and punishment as influential, positing procrastination is merely the response of neurological systems to reward and punishment cues. Action control theory explains procrastination as being the result of approach and avoidance or action and state orientations in that an individual delays when unable to appropriately orient him- or herself toward a goal. Some theories, like self-determination theory, have proposed that procrastination occurs when needs for self-efficacy are not met. Additionally, some consider procrastination as resulting from fear of failure due to the possibility of failure negatively impacting self-image. The varied perspectives on procrastination and the possible reasons it may occur point to procrastination being a complex behavior and one that should continue being studied.

Factors Associated with Procrastination

Aside from examining the nature of procrastination, some studies have attempted to assess which factors account for the variance in procrastination. Research has found that increased anxiety, low conscientiousness, and increased behavioral avoidance respectively account for the most significant variance in procrastination (Gautam, Polizzi,

& Mattson, 2019). These findings elucidate the complex nature of procrastination and those variables playing an indirect role in the process.

Research has shown that anxiety tends to be closely related to academic procrastination. In a study by Rothblum, Solomon, and Murakami (1986), participants were asked to self-report procrastination using the Procrastination Assessment Scale-Students (PASS), which measures frequency and impact of academic procrastination as well as cognitive-behavioral explanations for its presence. This study found that, in comparison to individuals reporting lower levels of procrastination, those reporting greater degrees of procrastination also reported more test anxiety, higher levels of weekly state anxiety, and physical symptoms associated with anxiety. These individuals were also more likely to exhibit an external locus of control (Rothblum, Solomon, & Murakami, 1986). These results may be somewhat conflated due to the study not correcting for gender and due to a higher prevalence of anxiety among women compared to men.

Procrastination and anxiety have also been correlated with one another through their relationship with stress and coping. A hallmark cognitive model of stress and coping proposed by Lazarus and Folkman (1984) described stress responses as coming from an interplay of appraisal, anxiety, and avoidance. According to their theory, individuals facing a task appraise the threat the task poses, the threat their possible responses to the task pose, and whether they have sufficient resources to handle each threat. An appraisal of their own resources as being insufficient for dealing with the task or their decisions is believed to lead to anxiety and other negative emotions. As a result of these cognitive and emotional responses, these individuals may then attempt to avoid the decision and task

through procrastination and may therein experience negative reinforcement of procrastination through its anxiety-reducing characteristics (Lazarus & Folkman, 1984). A hypothetical scenario related to academic procrastination may provide a good example of this process. A student may cognitively consider studying for a test, the task in question. The student may appraise the threat of the task as significant due to the impact failing the exam would have on his overall course grade. The student may then appraise his resources for handling the task or his understanding of the course material to be tested as insufficient. This may lead to an appraisal of studying as being negatively punishing in that it will take time to complete and will not allow him to do other, more enjoyable things, like watching television. He would appraise his resources for making a decision as being insufficient because of his cognitive ambivalence between studying and responding in a different manner instead. As a result of his appraisal of resources for approaching the task and for making a decision, the student would experience anxiety, and, as a result, would avoid the task through procrastination.

A relationship between procrastination and mood has also been observed. A study by Tice and Bratslavsky (2000) investigated the level of procrastination between participants in three separate mood manipulation categories: happy, sad, and neutral. Participants were told a story whose tone matched their assigned mood manipulation category in an attempt to induce the assigned mood. They were then asked to think of themselves in the same situation as the character in the story and to write an essay describing their emotions as that character. They were told they would be given an important test and would have the choice to study for as long as they liked within 20 minutes prior to the test. Tice and Bratslavsky's research found that happy participants

were more likely to exert self-control and practice longer, whereas sad participants were more likely to procrastinate. This research supports a view of procrastination as a form of emotion regulation in which individuals feeling negative emotions delay approaching long-term goals in favor of seeking short-term, more immediately gratifying goals.

Chronic procrastination has also been associated with negative consequences. Ferrari, Barnes, and Steele (2009) studied chronic avoidance of tasks due to fear of task failure or success. Their study considered avoidance in the scope of trying to circumvent potential personal revelations of inabilities or incompetence (termed avoidant procrastination) and in the scope of attempting to deal with boredom or to purposefully work within tight deadlines (termed arousal procrastination). It found that both arousal and avoidant procrastinators reported significantly more life regrets than non-procrastinators in relation to academic pursuits, childrearing, family and friend relationships, health, and fiscal planning. A subsequent meta-analytic review, which included a factor analysis of various procrastination scales, found that there was little support for the view of avoidant procrastinators and arousal procrastinators as distinct categories (Steel, 2010). This meta-analysis instead posited that the different kinds of procrastinators proposed and first based on Ferrari's (1992) research should instead be considered a single factor. It should be noted that the consideration of these forms of procrastination as one factor rather than a trinity of factors does not negate the findings showing that procrastinators report significantly more life regrets.

The Costa-McCrae "big five" personality factors have been found to have some correlation with procrastination specifically through the broad traits of neuroticism and conscientiousness (Milgram & Tenne, 2000). Neuroticism is a trait characterized by

overall negative emotions and emotional stability in that individuals exhibiting high levels of neuroticism experience significantly more of the former and significantly less of the latter. Conscientiousness is a trait characterized by thoughtfulness, impulse-control, organization, planning, and attention to details (Komarraju, Karau, Schmeck, & Avdic, 2011). Research has found that those high in neuroticism often exhibit higher levels of trait procrastination, or a chronic tendency to unnecessarily avoid tasks despite understanding the consequences of doing so. It has been suggested this is because these individuals are more likely to feel overwhelmed by their current tasks and easily distracted by other, less salient tasks and that this emotional reactivity and cognitive distraction may lead to procrastination (Sirois, 2019; Milgram & Tenne, 2000). Research has also found that those low in conscientiousness may also exhibit higher levels of trait procrastination, which is perhaps due to their greater disorganization and impulsivity influencing them to avoid planning tasks and to easily lose focus (Milgram & Tenne, 2000). Neuroticism was also found to account for the variance in decision time related to significant and insignificant decisions or tasks, whereas conscientiousness was found to account for the variance in task avoidance especially for academic tasks or for those related to life routines (Milgram & Tenne, 2000).

Executive functioning (EF), or the goal-oriented cognitive processes that help individuals modulate their thought and behaviors, have also been related to procrastination. A study by Gustavson, Miyake, Hewitt, and Friedman (2015) found a significant negative correlation between general EF and procrastination. This correlation was observed even when controlling for self-report biases due to individuals with lower levels of EF reporting higher levels of procrastination.

A meta-analysis of 216 separate works of research in procrastination yielded additional insights into factors related to procrastination. In this meta-analysis, Steel (2007) reviewed 691 correlates of procrastination presented throughout the research and found four significant predictors of procrastination: task aversion, task delay, self-efficacy, and impulsiveness. Two of these factors (task aversion and task delay) are qualities related to the intended task whereas the other two (self-efficacy and impulsiveness) are qualities related to the individual expected to carry out the task, indicating the reciprocal nature of procrastination. Fear of failure and mindfulness are interesting considerations in light of these findings. An article by Scent and Boes (2014) relates these variables to procrastination, self-efficacy, and task aversion through their proposal of a brief intervention for reducing procrastination. Scent and Boes propose that lack of self-efficacy, task aversion, and fear of failure may prompt students to experience unpleasant emotions or distress. They posit that these students may attempt to avoid that discomfort through procrastination behaviors. Their proposed intervention is based on acceptance and commitment therapy (ACT) and, therefore, seeks to address procrastination behavior through mindfulness techniques, among others. Further research into this intervention is necessary, but, should it prove to be successful, it may serve to reduce many of the negative issues associated with procrastination.

Research has shown a correlation between procrastination and various negative characteristics and experiences. It implies procrastination is not isolated or benign and is, in fact, related to sadness, anxiety, stress, neuroticism, and avoidance. These correlated variables give credence to the view that procrastination is something that should be

studied. Through additional research, procrastination might be better-understood and one day managed or prevented.

Measuring Procrastination

Studies of procrastination have used various strategies to evaluate levels of procrastination. There are different forms of procrastination and diverse ways in which procrastination may be presented. It is due to these factors and to limitations in the studies of human behavior that these different approaches have been taken by researchers.

Some studies have used imagined scenarios to ask students to predict their expected level of procrastination (Krause & Freund, 2016; Mzoughi, Garrouch, Bouhlel, & Negra, 2007). These forms of measurement may be open to error due to the possibility of self-serving biases and confirmation biases affecting the ways in which participants respond. The ways in which individuals respond to imagined scenarios may also not accurately reflect how they would respond if actually faced with those situations. Additionally, errors in self-report measurements may arise from social desirability characteristics or poor recall.

Many other studies have measured procrastination (especially academic procrastination) through self-report on standardized assessments, such as the Procrastination Assessment Scale – Students (PASS) and the Academic Procrastination State Inventory (APSI) (Rakes & Dunn, 2010; Onwuegbuzie & Collins, 2001; Krause & Freund, 2016; Binder, 2000). These methods benefit from relying on standardized

measures and from leveraging real-life experiences over imagined scenarios. However, they may be subject to error through the same biases as those sometimes encountered when using imagined scenarios to measure procrastination. Additionally, they may be subject to error through misinterpretations of average behaviors due to the recency effect and through poor participant recall of instances involving procrastination. Many of the items on these assessments may also point to trait procrastination rather than task procrastination. A meta-analysis of research on procrastination and academic achievement found that the nature in which procrastination was reported also impacted findings. Self-report measures disguised the relationship between procrastination and academic achievement and were believed to have been overestimated, and external assessments of procrastination revealed a negative correlation between these two variables that contradicted the findings of other research (Kim & Seo, 2015).

Still other studies have used experience sampling to study levels of procrastination among participants (Pychyl, Lee, Thibodeau, & Blunt, 2000; Reinecke & Hofmann, 2016). These kinds of studies have often had participants report their levels of procrastination immediately upon being randomly alerted through text messages or pagers. Kaftan (2018) pointed out many of the shortcomings of these kinds of studies, explaining that individuals may not be fully aware of their level of procrastination when alerted and may rationalize alternate tasks as being important. Kaftan also pointed out that procrastination is not a steady and predictable behavior and that, due to this, experience sampling may require many observations to obtain relevant data on procrastination.

Researchers Vangness and Young (2020) elaborated upon some of the shortcomings of procrastination research and some more functional means of measuring procrastination. They pointed out that previous research on procrastination has considered only individual behavioral indicators, such as task initiation and completion (Silver & Sabini, 1981) or amount of time devoted to the task (Ferrari & Tice, 2000). They addressed the limitations of these forms of measurement in that individuals may procrastinate on one task while "precrastinating," or beginning a task as soon as possible, on another. They further pointed out concerns with task initiation and completion in that procrastinators and individuals that work steadily but slowly may be indistinguishable from one another if both groups start and complete a task at the same time. Vangness and Young (2020) recommend evaluating multiple measures of task completion, such as task initiation, completion, and pursuit, as well as gathering multiple measures and conducting separate analyses. Their approach is that of latent profile analysis, grouping individuals into profiles based on similar qualities.

Imagined scenarios, self-report on standardized assessments, and experience sampling have all been used as means of measuring procrastination, and each have their own limitations. Vangness and Young (2020) have proposed the use of multiple measures of task completion to avoid these limitations affecting accuracy of data. An example of such a proposal in practice might be a survey with items related to procrastination during task initiation, completion, and pursuit. The Pure Procrastination Scale (PPS) might be considered such an instrument. It contains items related to initiation ("I generally delay before starting on work I have to do"), completion ("I don't get things done on time"),

and general phases of task pursuit ("I often find myself performing tasks that I had intended to do days before").

Fear of Failure

Fear of failure can be described as an emotional and cognitive concern with avoiding future failure and a disposition to avoid failure over approaching success (Mahone, 1960). It is for this reason individuals with fear of failure, especially those with an overall dispositional fear of failure, have been classified in some studies as being avoidance-oriented. Alternatively, individuals with hope of success have been classified as approach-oriented (Puca & Schmalt, 1999). Individuals with fear of failure are also characterized by a "tendency to appraise threat and feel anxious during situations involving the possibility of failing" (Conroy, Kaye, & Fifer, 2007). Fear of failure may prevent completion of a task, but some studies have posited that it is more often a contributory factor in procrastination than a principal factor (Schraw, Wadkins, and Olafson, 2007).

Interestingly, procrastination has been predicted on the basis of low self-reported feelings of hope and high fear of failure but not on the basis of low hope and high task-aversiveness (Alexander & Onwuegbuzie, 2007). This extends understandings garnered from the temporal decision model and implies that fear of failure may have a more central role than task aversiveness in predicting procrastination when certain conditions (namely, low hope) are present. It should be noted the research supporting this defined hope through the lens of hope theory, which was first proposed by Snyder, Irving, and

Anderson (1991) and considers hope to be based on goal-directed motivation and planning toward achieving goals. Due to the goal-directed nature of this conceptualization of hope and the inaction implicit in procrastination, it is understandable that hope and procrastination were negatively related. Additionally, Alexander and Onwuegbuzie's (2007) findings relative to task aversiveness are consistent with previous research by Solomon and Rothblum (1984). The latter research concluded that, when considering reasons for participant procrastination, task aversiveness accounted for a lesser degree of variance (18%) than fear of failure (49.4%).

Proposed Origins of Fear of Failure

Pioneering research into motivation theory proposed that motivations are largely the result of learning. It contends that cues for motivation are associated with emotional experiences (McClelland, Atkinson, Clark, & Lowell, 1953, p. 75). Feelings of pride in one's accomplishments have been associated with need for achievement, whereas shame has been posited to be a central affective component in fear of failure (Atkinson, 1957; McGregor & Elliot, 2005). Fear has, of course, been a central affective component as well. However, whereas fear of shame has been shown to lead to dysfunctional consequences of fear of failure, fear of an uncertain future has been shown to lead to functional and adaptive consequences (Conroy, 2004). The differences in these kinds of fear of failure lie in the focus of the fear itself.

A differential focus of the fear itself has been studied among individuals with fear of failure as well as perfectionism. Many perfectionists seem to respond to fear of failure

by “over-striving” and meticulously preparing despite these responses placing them at higher risk of burnout and emotional fatigue (Thompson & Parker, 2007). However, the focus of the fear they experience often differs based on the kind of perfectionism they exhibit. This is most clearly seen with socially prescribed perfectionists (SPPs), self-oriented perfectionists (SOPs), and other-oriented perfectionists (OOPs). SPPs are those that believe others expect perfection of them and will be critical if standards are not met. SOPs are those that expect perfection of themselves and are critical of themselves if standards are not met. OOPs are those that expect perfection of others and are critical of others if standards are not met (Stoeber, 2014). Individuals with fear of failure and characterized as SPPs were more likely to fear that failure would result in interpersonal problems (i.e., important relationships being negatively affected). However, individuals with fear of failure and characterized as both SOPs and OPPs were more likely to fear shame and embarrassment (Conroy, Kaye, Fifer, 2007). These distinctions allude to a relationship between perfectionism and the variance in focus of fear of failure, at least among those that can be categorized as SPPs, SOPs, and SOPs.

Childhood experiences have also been posited as leading to fear of failure. Research by Elliot and Thrash (2004) has proposed that fear of failure may be a learned, intergenerational trait with a negligible influence of genetic inheritance. Their research found that fear of failure among participants’ mothers and fathers was a positive predictor of those participants espousing performance-avoidance goals in a classroom setting. Performance-avoidance goals are those whose objective is not being perceived by others as having failed. These kinds of goals have been proposed as being primary channels through which fear of failure is directed (Elliot & McGregor, 1999; Bartels & Ryan,

2013). Elliot and Thrash's (2004) research indicated that participant fear of failure was in fact a mediating variable. Their results suggested it might explain for the positive relationship between fear of failure reported by participants' parents and the adoption of classroom performance-avoidance goals by the participants themselves. Individual parental factors were also associated with fear of failure in their research. More specifically, the presence of maternal love withdrawal (a parenting technique in which a child is withdrawn affection as a result of his or her undesired behavior) was found to be a mediating variable explaining the positive relationship between maternal fear of failure and child fear of failure. Additionally, fear of failure among fathers was a negative predictor of participants espousing mastery goals, or implicit goals whose objective is task mastery, due to fear of failure. Elliot and Thrash's research thereby posits fear of failure is a learned attribute parents teach their children through the ways in which they cognitively, affectively, and behaviorally respond to their own failures.

The importance of social learning from a peer-to-peer context has also been considered significant to the development of fear of failure. In a Janes and Olson (2000) study of "jeer pressure" (the pressure felt from the observation of another individual being criticized), participants were asked to view videos containing self-critical humor, other-critical humor, non-critical humor, or no humor at all. Results of their study found that participants that viewed videos containing ridicule of others were more likely to exhibit fear of failure in a subsequent ring-toss task than participants that viewed videos containing self-ridicule or no ridicule. These findings likely support the previously described research by Elliot and Thrash (2004) positing fear of failure is a learned attribute.

Protection motivation theory has also been used as a means of defining the purpose of fear of failure. This theory posits all individuals respond to fear-inducing information by appraising four elements: the severity of the threat, the possible risks arising from the situation (a.k.a., vulnerability), the efficacy of the individual (a.k.a., self-efficacy), and the efficacy of the behavior meant to prevent the threatening situation (a.k.a, response efficacy) (Cismaru, Lavack, Hadjistavropoulos, & Dorsch, 2008). This model of fear evaluation can be seen as having components of threat-appraisal (specifically through those elements of vulnerability and severity) and of coping-appraisal (specifically through the elements of self-efficacy and response efficacy) (Zhang et al., 2018). Using this view of threat and coping responses, Zhang et al. (2018) posited that individuals threatened by a negative impact of task failure on their self-esteem may procrastinate as a result of fear of failure being a part of their threat appraisal process.

Factors Associated with Fear of Failure

Fear of failure has been associated with various negative outcomes, such as poor academic and career outcomes. For example, high levels of fear of failure among implicitly motivated individuals was associated with poor academic performance (Schmalt, 1999). Additional research has found that, when assessing school engagement using the Rochester Assessment Package for Schools-Student Report (RAPS-S), fear of failure and engagement were negatively correlated. In another study of baccalaureate nursing students, fear of failure was correlated with academic distress through its identification as a major stressor (Wolf, Stidham, & Ross, 2015). A study by Abele,

Andra, and Schute (1999) observed the relationship of fear of failure with negative outcomes for individuals recently completing their schooling. It found that students completing their final exams at university were less likely to find jobs relative to their peers when high fear of failure was indicated.

Fear of failure has also been shown to have a negative effect on cognitive processing. Research by Lerche, Neubauer, and Voss (2018) found that participants with a significant level of implicit fear of failure were shown to have slower rates of task learning when compared to other participants assigned to complete the same task. A relationship between cognitive processing and fear of failure has also been observed specifically among individuals with implicit motivations. These are motivations that are largely unconscious and that involve the pursuit of affective satisfaction (Brunstein, 2018). Research by Lerche, Neubauer, and Voss (2018) also found that individuals with high implicit fear of failure exhibited a slower rate of information accumulation, or drift. This was especially the case for those exposed to frustration in the form of negative feedback while completing a task.

Fear of failure has also been shown to be related to self-image. For example, a study by Joubert (1990) found a negative correlation between fear of failure and self-esteem. Additional research by Neureiter and Traut-Mattausch (2016) found that fear of failure was positively correlated with participant reports of experiencing the impostor phenomenon. This is the experience of feeling as if one is an impostor, or an individual carrying out a task despite feeling incompetent and unqualified, despite evidence implying the contrary. The relationship between fear of failure and the impostor phenomenon may be due to considerations of self-efficacy playing a part in one's

appraisal of him- or herself. Fear of success, or a fear of performing well due to the risk of one's success leading to dislike or disapproval from others, was not only also positively correlated with impostor feelings but was also very significantly positively correlated with fear of failure in the same study.

The causal nature of the relationship between fear of failure and the adverse characteristics or experiences associated with it are unclear. One might hypothesize that academic outcomes and experiences are related due to the focus of some individuals' feelings of fear of failure being academic failure. In other words, academic distress may result from fears of poor academic performance. Research has found that fear of failure is a central component of the experience of test anxiety (Herman, 1990). Test anxiety has also been shown to negatively affect concentration among college students and to lead to poorer grades (Barrows, Dunn, & Lloyd, 2013). This might reveal a mediating role of test anxiety in the relationship between fear of failure and some kinds of cognitive dysfunction. As previously mentioned, cognitive disadvantages have been shown to be related to feelings of fear of failure. One might also hypothesize that fear of failure may negatively impact self-image and self-efficacy due to the distress caused by the emotional experience or some of the consequences related to it. As also previously mentioned, fear of failure has been shown to be related to emotional distress in the form of poor self-image and experiences of the impostor phenomenon. Though much is still to be researched, the negative experiences associated with fear of failure are a cause for concern. Perhaps none of these distressing associated variables are more interesting than that of procrastination.

Fear of Failure and Procrastination

The relationship between fear of failure and procrastination is disputed among researchers. There is no single view as to whether these variables are directly related, unrelated, or correlated only through the intervening impact of another variable. The current research sets out to examine the relationship between these two variables and to consider their relationships with mindfulness. Given the research pointing to correlations between these variables, one might infer that fear of failure is an emotional preoccupation with a future event (i.e., failure), that this fear is likely to elicit a behavioral avoidance of that fear (i.e., procrastination), and that level of mindfulness serves to bring attention back to the present and reduce emotional sensitivity. As a result, the nonjudgmental and present-focused attitude mindfulness entails may serve to reduce procrastination so that those that fear failure and experience mindfulness are less likely to delay tasks.

Some researchers have pointed to a direct relationship between fear of failure and procrastination. There is some support for the belief fear of failure and procrastination are positively related in that fear of failure might increase procrastination among individuals (Fatimah, Lukman, Khairudin, Wan Shahrazad, & Halim, 2011; Haghbin, McCaffrey, & Pychyl, 2012). In a study by Kachgal, Hansen, & Nutter (2001), 21.7% of students administered the Procrastination Assessment Scale – Students (PASS) highly endorsed worry of getting a bad grade as the cause of their procrastination while writing a term paper. This worry can be interpreted as a fear of failure in that the focus of the worry is the possibility of a poor academic outcome on their assignment. Other research (Solomon & Rothblum, 1984) has pointed to fear of failure as being one of the factors most

correlated with task delay and found that it accounted for 49.4% of the variance in procrastination reported by participants.

Other researchers have posited that fear of failure is only related to procrastination through its mediating role with other variables or when each variable is present to a certain degree. A study by Zhang et al. (2018) found that, rather than fear of failure, participant self-esteem had insignificant direct effects on procrastination. The same study found fear of failure acted as a mediating variable. In other words, fear of failure had a negative correlation with self-esteem, which impacted levels of procrastination in a positive direction. There is additional indirect support for a correlation between fear of failure and procrastination if one can consider the relationship between fear of failure and avoidance-related goal orientations. A study by Schouwenburg (1992) set out to observe the relationship between fear of failure and procrastination and found that, in general, trait fear of failure and trait procrastination (i.e., fear of failure and procrastination displayed consistently over time rather than in certain situations) were unrelated. The exception to this was among a small set of individuals with moderate levels of trait procrastination and overall average levels of trait fear of failure for which a positive relationship was observed. Shouwenburg's research also indicated that behavioral procrastination and behavioral fear of failure were, in general, not significantly related but found them to be positively correlated among a small set of individuals with high levels of each variable. These results may indicate a tendency for fear of failure and procrastination to be closely correlated only when present within a specific degree.

Still other research has supported the view that fear of failure and procrastination have an indirect and conditional relationship through their association with other

variables. Research by Haghbin, McCaffrey, and Pychyl (2012) has observed procrastination through the lens of self-determination theory (SDT). SDT purports that individuals become motivated to pursue goals when the needs for self-efficacy (i.e., autonomy, competence, and relatedness) are met. Haghbin, McCaffrey, and Pychyl's research found that fear of failure and procrastination only showed a correlation when competence was considered as a moderating variable. In other words, individuals with high levels of competence were likely to fear failure but procrastinate less, whereas individuals with low levels of competence were likely to fear failure and procrastinate more. One hypothesis as to why this would occur may be that those experiencing fear of failure and with low competence may expect to fail due to their lack of perceived skill or knowledge relative to the task. This may lead them to procrastinate as a means of avoiding feelings associated with what they believe is inevitable failure (Procee, Kamphorst, van Wissen, & Meyer, 2013). The aforementioned research by Haghbin, McCaffrey, and Pychyl (2012) also found fear of failure and procrastination were correlated in the presence of autonomy, or the belief one can bring about change in his or her life, as a mediating variable. In other words, procrastination on academic and everyday tasks was more likely to be reported when participants indicated their fear of failure led to less feelings of autonomy. Additional research has related fear of failure to procrastination indirectly through findings showing that procrastination is positively correlated with mastery-avoidance and performance-avoidance goal orientations (Seo, 2009; Sideridis, 2008; Elliot & Church, 1997). Mastery-avoidance goals are those in which an individual endeavors to avoid performing on a task in a way he or she perceives as being below his or her usual ability or skill level. Performance-avoidance goals are

those in which an individual endeavors to avoid performing more poorly on a task than others (Von Stietz, 2018). The relationship between procrastination and avoidance goals are understandable given that procrastination itself is an act of avoidance. Research has shown that fear of failure prompts the use of avoidance-based goals, such as mastery avoidance goals and performance avoidance goals, due to fear of failure orienting individuals toward the possibility of failing (Elliot & Church, 1997). The presence of these avoidance goals may then be considered mediating variables through their ability to elicit behavioral procrastination.

There are some significant limitations to those studies finding no relationship between fear of failure and procrastination. Haghbin, McCaffrey, and Pychyl (2012) contend that many studies finding no relationship may be restrictive in their approach due to not considering mediators and moderators. They cite Dryden, Neenan, and Yankura (1999), positing that thoughts, emotions, and behaviors are integrated and interact with one another. They relate these different aspects of human functioning to the complex nature of procrastination, arguing such a multi-faceted and complex behavior should not be approached solely through fear of failure or procrastination. Haghbin, McCaffrey, and Pychyl also point out that various studies conceptualize fear of failure as a unidimensional construct rather than as a multidimensional construct. A multidimensional perspective of fear of failure has been supported in literature (Conroy, Kaye, & Fifer, 2007; Conroy, 2001) and is the perspective adopted by widely-used instruments measuring fear of failure, such as the Performance Failure Appraisal Inventory (PFAI).

In summary, existing literature has provided different perspectives on the relationship between fear of failure and procrastination. Some research has observed a direct, positive correlation between fear of failure and academic procrastination. Other research has found a correlation between these variables only when experienced to certain degrees. Some studies have indirectly considered them related to one another through considerations of procrastination as being positively correlated with mastery-avoidance and performance-avoidance goal orientations. Others have found support for a positive correlation only in the context of moderating or mediating variables. Some studies have found that fear of failure may act as a mediating variable between self-esteem and procrastination. Other studies have found that the influence of moderating variables, such as competence, may impact the strength of the positive relationship between fear of failure and procrastination. Still others have found that the consideration of mediating variables, such as autonomy, explains the positive relationship them. Given the breadth of studies conducted and the varied findings relative to fear of failure and procrastination, it is important that research on the correlation between these two variables be continued.

Mindfulness

Mindfulness is a conscious, focused awareness and attention to the present. The practice of mindfulness is, therefore, partly the practice of maintaining an awareness of present-moment experiences and events. It is a self-regulation of attention (Bishop et al., 2004). It is also dynamic in that it is rooted in each changing moment and is a skill that can be learned and practiced (Brown & Ryan, 2003). Additionally, mindfulness entails

acceptance and nonjudgment. Mindful individuals are grounded in the present and observe their own thoughts and emotions in a tolerant manner (Neff, Hsieh, & Dejitterat, 2005).

Three axioms of mindfulness have been proposed: intention, attention, and attitude (Shapiro, Carlson, Astin, & Freedman, 2006). The axiom of intention is related to the practice of mindfulness being purposeful. Individuals who practice mindfulness may have different objectives, such as self-regulation or self-exploration. These goals may and often do change as individuals continue to practice being mindful. However, these individuals should be intentional in their practice of mindfulness. The second axiom, attention, corresponds to being attentive to moment-to-moment experiences. An individual might be attentive internal experiences, such as emotions or thoughts, or external happenings. Additionally, perceptions attended to may be those of one's personal physical state or one's sensory experiences (Siriois & Tosti, 2012). Though a focus on the present is central to mindfulness practices, it is not necessarily unique to them. Some therapeutic modalities, such as Gestalt psychology, which tasks clients with finding solutions to their concerns in the immediate moment, also hold presence as a central component in the search for change (Miller, 1989). This may allude to the transformative potential of mindfulness. The last axiom, attitude, is related to the ways in which individuals perceive. It comprises the nonjudgmental approach mindful individuals take toward what they attend to in the present moment. This approach is open, accepting, and curious rather than closed-minded and critical, an attitude referred to as *orientation to experience* (Bishop et al., 2004).

Individuals' levels of mindfulness can be measured as instances of mindful behaviors or as a trait representing the level of mindfulness an individual experiences over time. Due to the complex and highly contextual nature of mindfulness, it has been quantified differently by various instruments. Some instruments, such as the Mindful Attention Awareness Scale (MAAS), quantify mindfulness in a unidimensional manner. Other instruments quantify mindfulness through multiple subscales. For example, the Five Facet Mindfulness Questionnaire (FFMQ) quantifies mindfulness through five subscales related to observing, describing, acting with awareness, not judging, and not reacting. The Kentucky Inventory of Mindfulness Skills (KIMS) considers the same mindfulness skills but combines nonjudgment and nonreacting into one skill, that of accepting (or allowing) without judgment.

The Impact of Mindfulness

Research has pointed to the efficacy of mindfulness-based interventions (MBIs) in bringing about cognitive, behavioral, and neurobiological changes. Neuropsychological research has shown that meditation practices rooted in mindfulness are associated with improvements in attention (Jha, Krompinger, & Baime, 2007), autobiographical memory (Heeren, Broeck, & Phillippot, 2009), and executive functioning (Tang, Yang, Leve, & Harold, 2012).

Studies have also observed a relationship between MBIs and neurobiological changes. A systematic review of research involving electroencephalography (EEG) neuroimaging found that long-term mindfulness meditation practices were associated

with architectural brain changes (Chiesa & Serretti, 2010). It also found that cortical and subcortical structures involved in attentional processes were found to be thicker compared to controls. Despite procrastination not being solely related to attention, it might be argued that the structural development of these brain areas may make task persistence easier due to development of attentional abilities. This might, in turn, reduce task aversiveness and diminish the salience of procrastination. However, it should be noted there are limitations to this study due to its cross-sectional design and due to the relationship between brain structure, attention, task persistence, and procrastination being solely hypothetical. A separate study of mindfulness, as practiced through attention-to-breath (ATB) exercises, found that these exercises led to regulated activation of the amygdala. They were found to lead to increased integration between the amygdala and areas of the prefrontal cortex, an effect associated with mindfulness ability (Doll et al., 2016). As with other strategies that affect the brain in similar manners, ATB was associated with emotion regulation, or the management of the ways in which one responds to emotional experiences. If there is an association between mindfulness, fear of failure, and procrastination, it may be the case these brain changes are related. It might also be hypothesized individuals experiencing fear of failure and procrastinating as a result may be able to develop increased emotion regulation from mindfulness practices. This may be a product of or may lead to similar brain changes as the ones observed by Doll et al., though this is yet to be determined.

Mindfulness has been considered effective in eliciting change because of its ability to alter one's point of focus. Shapiro, Carlson, Astin, and Freedman (2006) referred to this process as *reperceiving*, or a change in perception that brings about a

change in perspective. Reperceiving is considered beneficial in that it allows individuals to remove themselves from their experiences and to view them with objectivity and a nonjudgmental attitude. Research, like that carried out by Heeren and Philippot (2011), has supported the view that mindfulness brings about a shift in perception. In their study, 57 participants were assigned to either mindfulness training using a mindfulness-based cognitive therapy approach or assigned to a waiting list. Those participants that received mindfulness training were found to experience less brooding, maladaptive rumination and more reflective, adaptive rumination. A meta-analysis of research on mindfulness-based therapy (MBT) also explored the efficacy of mindfulness. It found that mindfulness practices improved symptoms of anxiety and depression among participants and posited that this may have been due to these practices' effects on emotional and evaluative dimensions impacting well-being (Hofmann, Sawyer, Witt, & Oh, 2010).

Research has indicated that MBIs are related to improvements in concentration, greater emotion regulation, and shifts in the focal point of one's attention. Mindfulness practices have also been correlated with increases in adaptive rumination and improvement in anxiety- and depression-related symptoms. These findings are significant due to their implications of mindfulness practices as being effective in reducing distress and bringing about positive change. They are especially promising if one considers them in relation to the distress of fear of failure and the use of procrastination as a strategy of reducing immediate distress.

Mindfulness and Procrastination

A correlation between mindfulness and procrastination has been observed in many studies. Perhaps the most direct support for this relationship comes from a study by Schutte and de Bolger (2020). Participants asked to report on personal characteristics and to describe a task they might delay were found to report less procrastination when reporting higher levels of trait mindfulness. Reported attentional capacity was found to be a mediating variable in this relationship in that the ability to sustain attention for prolonged periods was considered the reason individuals reporting mindfulness reported less procrastination. This observed impact of attention may be related to the previously mentioned findings of Chiesa and Serretti (2010), which indicated that mindfulness practices were associated with neurobiological changes in brain areas related to attentional processes. Research by Sirois and Tosti (2012) also indicated a relationship between mindfulness and procrastination. Participants were asked to report their abilities and tendencies toward being present-minded as well as their levels of individual mindfulness skills, as measured by the Kentucky Inventory of Mindfulness Skills (KIMS). They were also asked to indicate their level of procrastination across various tasks. Results indicated that all measures of mindfulness were negatively associated with reduced procrastination. Two of the individual mindfulness skills assessed in Sirois and Tosti's research were also studied in research by Evans, Baer, and Segerstrom's (2009), which found that these skills predicted perseverance on a challenging task. Sirois and Tosti commented on these findings, positing the negative relationship between mindfulness and procrastination observed may have been due to mindfulness reducing negative self-talk and allowing for increased task persistence and decreased

procrastination. Finally, a relationship between mindfulness and procrastination has even been observed in occupational environments. Research by Troyer (2018) found mindfulness was negatively correlated with procrastination and burnout and positively correlated with mediation and employee management (Troyer, 2018).

A comparison of mindfulness, fear of failure, and procrastination to self-compassion may also support the view that these variables are related to one another. Research has suggested that self-compassion entails mindfulness due to it involving individuals being aware of their own experiences (i.e., their suffering) and being nonjudgmental of their shortcomings (Neff, Hsieh, & Dejitterat, 2005; Neff & Dahm, 2015). Consequently, research by Neff, Hsieh, and Dejitterat (2005) measured levels of self-compassion among participants in their research through an instrument containing a mindfulness subscale (among other subscales). Their study found a negative correlation between self-compassion and performance goals, which are goals whose focus is an outcome. The same research by Neff, Hsieh, and Dejitterat (2005) also found a negative correlation between self-compassion and avoidance-oriented strategies, which are strategies to avoid performance in order to avoid being perceived as incompetent. This avoidance is akin to procrastination in that procrastination itself is a purposeful avoidance, or delay, of a task. Research by Sirois (2014) also supported previously-posited views of the relationship between self-compassion and trait procrastination, suggesting these variables are negatively correlated to a moderate degree.

Indirect support has also been gained for the view that mindfulness and procrastination are related. A study by Reese, Zielinski, and Veilleux (2015) found that three aspects of mindfulness (namely, acting with awareness, non-reactivity, and non-

judgment) were related to the behavioral inhibition system (BIS) and to emotional dysregulation. The BIS is a proposed neurological system believed to bring about more avoidance behaviors and less approach behaviors in response to aversive stimuli (Gray, 1981; Gray, 1987a; Gray 1987b). Procrastination can be thought of as being related to the BIS in that it is an avoidance behavior (e.g., watching television rather than doing chores) that often comes about as a response to the perception of a negative stimuli (e.g., the sight of dirty dishes). Reese, Zielinski, and Veilleux's research found that BIS sensitivity predicted higher levels of emotion dysregulation when mindfulness was considered a mediating variable. In other words, a lack of control of emotional intensity and duration was predictable when lack of mindfulness practice was found to increase BIS sensitivity.

Some studies have set out to examine how mindfulness practices can be used to reduce procrastination. One such study (Dionne et al, 2016) set out to examine this through the framework of different therapy modalities, one of which was acceptance and commitment therapy (ACT). This approach to psychotherapy is especially relevant due to its emphasis on acceptance and mindfulness to bring about behavioral change. Results of the study indicated that ACT was more efficacious at reducing procrastination compared with cognitive and behavioral therapy (CBT) and with no treatment. Additionally, those participants that participated in ACT continued to report lesser amounts of procrastination three months after the study when compared to those that participated in CBT. Despite various limitations of this study – the sample size was small (n=59), attrition rate was notable, and no causal inferences could be made – this study may further point to a relationship between mindfulness and procrastination.

Literature Summary

Procrastination is a voluntary delay of a decision one intends to make or a task one intends to complete. Many theories attempt to explain the causes of procrastination with some considering such factors as expectancy, value, time, reinforcement, and punishment (Steel & König, 2006) and some considering competing internal and external features that may lead to a dysfunction in action control strategies (Kuhl, 1984; Menec & Schonwetter, 1994).

Despite the varied origins of procrastination proposed, it is a matter of concern due to those negative factors it is associated with. Procrastination has been correlated with various negative characteristics, such as anxiety (Rothblum, Solomon, & Murakami, 1986; Lazarus & Folkman, 1984), sadness (Tice & Bratslavsky, 2000), and life regrets (Ferrari, Barnes, & Steele, 2009). Understanding the role of certain variables, such as fear of failure and mindfulness, that correlate with procrastination may help future research better-understand this passive form of task delay in order to help avoid many of the negative consequences related to it.

Fear of failure has been correlated with procrastination in many studies. Research by Elliot and Church (1997) has implied that fear of failure may have a direct role in procrastination by prompting the use of avoidance-based goals. Additional research has found support for a direct relationship, showing a positive correlation between behavioral trait fear of failure and behavioral trait procrastination (Schouwenburg, 1992) or a direct increase in procrastination due to fear of failure (Fatimah et al., 2011; Haghbin, McCaffrey, & Pychyl, 2012). However, some research has supported the idea of a more complex correlation with competence acting as a moderating variable to increase

procrastination (Haghbin, McCaffrey, & Pychyl, 2012) or with fear of failure acting as a mediating variable between self-esteem and procrastination (Zhang et al., 2018). The diverse explanations offered as to the relationship between fear of failure and procrastination bring forth the possibility additional variables, such as mindfulness, have an effect.

Mindfulness has been studied in the context of emotional experiences. For example, research has shown that emotion dysregulation is predictable in the presence of sensitivity of behavioral inhibition systems. It has been suggested this is due to decreased mindfulness, especially those aspects related to acting with awareness, non-reactivity, and non-judgment (Reese, Zielinski, & Veilleux, 2015). This relates to fear of failure in that this experience is often the result of emotion dysregulation. Fear of failure is a distressing emotional experience, one usually felt in response to an aversive or threatening task. It is worth consideration due to it acting as a mediating variable between performance goals and measures of self-compassion that include considerations of mindfulness (Neff, Hsieh, & Dejitterat, 2005).

Research has also supported the view that mindfulness and procrastination are negatively correlated. Studies have shown an association between higher measures of mindfulness and reduced procrastination (Sirois & Tosti, 2012) and between lower levels of mindfulness and increased procrastination and burnout (Troyer, 2018).

Despite the existence of various studies related to mindfulness and fear of failure or to mindfulness and procrastination, there is much room for expansion upon procrastination research. Some of the studies presented indirectly relate these variables to one another, lack scope or breadth of sample size, or lack specificity. Nonetheless, some

studies suggest fear of failure and procrastination are positively correlated. It is due to the scarcity of research exploring the relationships between fear of failure and procrastination and mindfulness and procrastination that further exploration of these variables is needed.

Hypotheses

The aim of this study will be to investigate the relationships between fear of failure and procrastination as well as mindfulness and procrastination. The hypotheses to be examined will be as follows:

Hypothesis 1: There will be a significant positive correlation between fear of failure and procrastination.

Hypothesis 2: There will be a significant negative correlation between mindfulness and procrastination.

CHAPTER III

METHODOLOGY

Participants

Participants consisted of students enrolled in courses at Pittsburg State University. These individuals were notified of the study via email and through in-class and/or online notification by their instructors and participated in partial fulfillment of course requirements. They were recruited through sign-up sheets placed outside of the Department of Psychology and Counseling. Individuals were asked to participate only if they were 18 years of age or older. A total of 310 students participated in the study. Of the total participants 33% identified as male (n = 102) and 67% identified as female (n = 208). The mean age of participants was 20 (range = 18 - 47). Furthermore, 82% identified as White (n = 254); 4% identified as Black or African American (n = 13); 4% identified as Hispanic or Latino (n = 11); 2% identified as Asian (n = 5); 1% identified as American Indian or Alaskan Native (n = 3); 7% endorsed multiple races or ethnicities (n = 23); and one participant indicated they preferred not to answer.

Materials

The measures used include the Pure Procrastination Scale (PPS), the Performance Failure Appraisal Inventory, long-form (PFAI, long form), and the Kentucky Inventory of Mindfulness Skills (KIMS).

The Pure Procrastination Scale (PPS) is a 12-item self-report measure designed to assess both decisional and trait procrastination. Respondents are asked to indicate on a scale of 1(Very rarely or never) to 5 (Very often or always) how often they perform certain behaviors relative to procrastination. The PPS assesses voluntary delay and observed delay. The concept of voluntary delay reflects irrational and conscious attempts at procrastination, and the concept of observed delay reflects the observation of one's self running out of time, not completing things, or not meeting deadlines (Rebetez, Rochat, Barsics, & Van der Linden, 2018). The current research will examine total procrastination. It will also examine levels of procrastination relative to a three-factor model. This model describes the construct as being composed of decisional procrastination, procrastination relative to beginning a task (referred to as delay in implementation), and procrastination related to timeliness or resulting in lateness (referred to as timeliness/lateness) (Svartdal & Steel, 2017). The PPS was created using items from other widely used procrastination scales, namely the Decisional Procrastination Questionnaire (DPQ), General Procrastination Scale (GPS), and Adult Inventory of Procrastination (AIP). PPS items include such statements as, "I delay making decisions until it's too late." Items scores are summed to provide a total rating of procrastination with higher scores reflecting greater levels of procrastination. The PPS has good internal consistency (Cronbach's $\alpha = .92$), good convergent validity with other

measures of procrastination (i.e., the DPQ, GPS, and AIP), and good divergent validity with the Satisfaction with Life Scale (SWLS), which is a measure of well-being (Steel, 2010).

The Performance Failure Appraisal Inventory (PFAI, long form) is a 25-item questionnaire designed to assess respondents' fear of failure. It was initially developed to measure fear of failure among athletes and has been used extensively for that purpose but has also been used to measure this construct among non-athlete populations. Respondents of the PFAI are asked to indicate their beliefs on a scale of -2 (Do Not Believe at All) to +2 (Believe 100% of the Time). Each item corresponds to one of five subscales measuring different kinds of fear of failure: fear of experiencing shame and embarrassment; fear of devaluing one's self-estimate; fear of having an uncertain future; fear of important others losing interest; and fear of upsetting important others. Although these five categories are not a comprehensive list of all kinds of fear of failure, they account for the key kinds of threat assessments associated with fear of failure (Sagar & Jowett, 2010). Responses to items in each subscale are summed. Each resulting score reflects a respondent's belief that failure is usually associated with negative outcomes relative to that subscale. All subscales are then summed in order to obtain a general fear of failure score, which reflects a respondent's overall belief that failure is usually associated with negative outcomes. The current research will examine total scores, as consistent with standard practice. Two versions of the PFAI, long form, exist: form A and form B. Both forms are identical excluding one item (#12), which is phrased in a negatively-scored manner in form A (i.e., "…I am *not* worried…") and in a positively-scored manner in form B (i.e., "…I am worried…"). Form B was used for the purposes of

this research due to it being recommended in three studies of PFAI validity for its score's greater stability over time and lesser probability of measurement error (Conroy & Metzler, 2003; Conroy, Metzler, & Hofer, 2003; Conroy, Willow, & Metzler, 2002). The PFAI has strong convergent, discriminant, and predictive validity (Conroy, 2001). The long version of the PFAI has good internal consistency (Cronbach's $\alpha = .91$) and has been determined to be a reliable measure of fear of failure (Conroy, Willow, & Metzler, 2002).

The Kentucky Inventory of Mindfulness Skills (KIMS) is a 39-item self-report scale used to assess levels of mindfulness. Unlike the PFAI and PPS, the KIMS scale does not provide an overall mindfulness statistic. It instead analyzes mindfulness relative to four distinct subscales: observing, describing, acting with awareness, and accepting (or allowing) without judgment. Observing skills relate to attending to internal and external experiences and events. Describing skills relate to explaining or characterizing observations in verbal, nonjudgmental manners. Acting with awareness skills relate to attentively engaging in the present moment while carrying out an action. Accepting (or allowing) without judgment skills relate to accepting emotions, perceptions, and thoughts as they are without attempting to judge, avert, modify, or escape them. Individuals completing the KIMS are asked to indicate how generally true each item is relative to themselves using a 5-point Likert scale ranging from 1 (Never or very rarely true) to 5 (Very often or always true). The KIMS has good concurrent validity. It correlates positively with the MAAS, the Trait Meta-Mood Scale (an instrument used to assess emotional intelligence), and the Conscientiousness and Openness scale of the NEO Five-Factor Inventory-3 (NEO-FFI-3). It also correlates negatively with the Toronto Alexithymia Scale (a scale used to assess individuals' abilities to identify or describe

their emotional experiences) the Acceptance and Action Questionnaire (an instrument created within the ACT framework to assess levels of psychological inflexibility), and Conscientiousness and Openness scales of the NEO-FFI-3. Test-retest reliability of the KIMS is satisfactory to good with correlations for each subscale being .65, .81, .86, and .83, respectively (Baer, Smith, & Allen, 2004). Internal consistency of the KIMS is also good with Cronbach's α equal to .91, .84, .76, and .87 for each subscale, respectively (Singh, Junnarkar, & Kaur, 2016).

Procedure

Data collection took place in the second summer and fall semesters at Pittsburg State University. Participants were asked to take part in the study by accessing a secure web page. Upon accessing the page, participants were informed of the purpose of the study and given information related to informed consent. They were then asked to indicate their consent to participate in the study. Following this, they were asked to indicate their gender, age, ethnicity, class standing, and major and were given the option not to disclose any or all of this information if desired. They were then asked to respond to various items related to fear of failure, mindfulness, and procrastination. These items were those that make up the PFAI, KIMS, and PPS, respectively. Upon responding to all items, participants were debriefed and thanked for their participation. Participants also received class credit in partial fulfillment of course requirements.

Methods of Analysis

For hypothesis 1, which posits there is a significant positive correlation between fear of failure and procrastination, Pearson product-moment correlation coefficients were used.

For hypothesis 2, which posits there will is a significant negative correlation between mindfulness and procrastination, Pearson product-moment correlation coefficients were used.

CHAPTER IV

RESULTS

Internal consistency reliability measures were obtained relative to the sample of this study. These measurements were gathered for all three instruments used in this study: the Performance Failure Appraisal Inventory (PFAI), the Pure Procrastination Scale (PPS), and the Kentucky Inventory of Mindfulness Skills (KIMS). The PFAI had excellent internal consistency (Cronbach's $\alpha = .94$) relative to the sample. The PPS had good internal consistency (Cronbach's $\alpha = .88$). Additionally, the KIMS also had good internal consistency (Cronbach's $\alpha = .81$).

Repeated measures analyses of variance and a subsequent series of Student-Newman-Keuls tests were conducted to compare gender differences in fear of failure, mindfulness, and procrastination. No significant differences between genders were found for levels of procrastination. Differences between genders were found specifically for mindfulness through acting with awareness (AWA; $p = .006$). However, there were no significant differences between males and females for any other form of mindfulness. Compared with male participants, females were found to have higher levels of various forms of fear of failure. These differences were statistically significant for overall fear of failure (GEN; $p = .001$), fear of devaluing one's self-estimate (FDSE; $p < .001$), fear of experiencing shame and embarrassment (FSE; $p < .001$), and fear of having an uncertain

future (FUF; p = .002). In order to control for gender, Pearson partial correlation coefficients were used to analyze those scales and subscales for which a statistically significant difference between genders was observed.

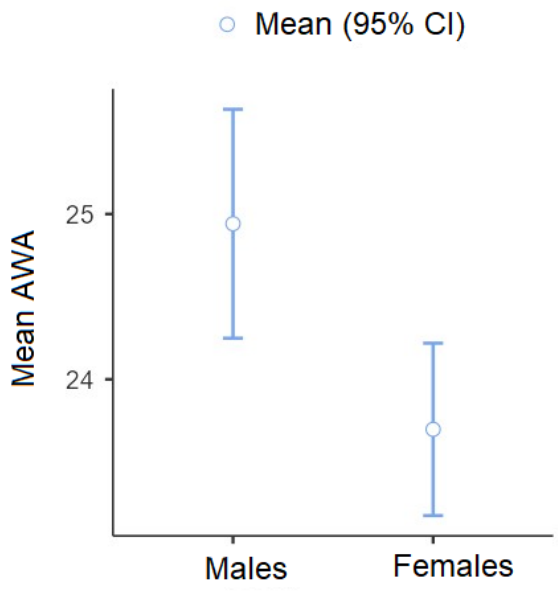

Figure 1. *Mean (± SD) levels of acting with awareness in females and males.*

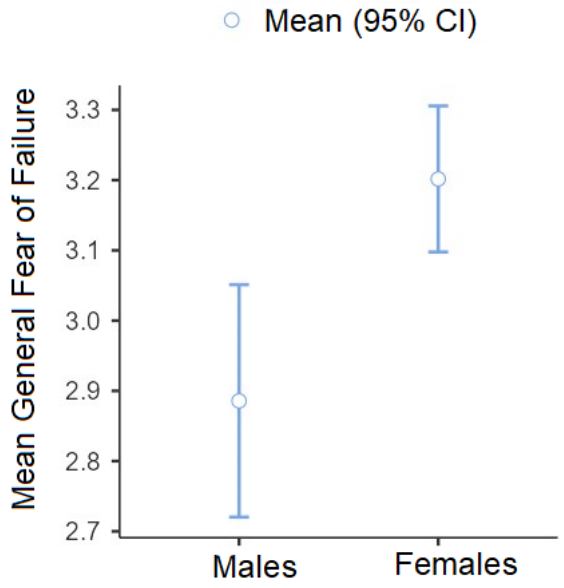

Figure 2. *Mean (± SD) levels of general, or overall, fear of failure among females and males.*

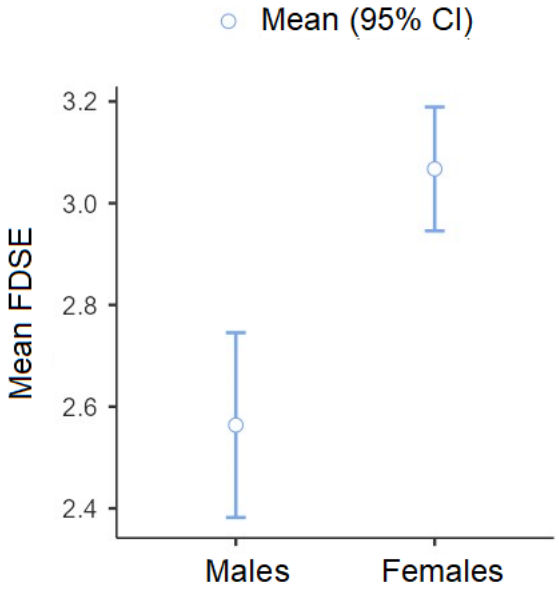

Figure 3. *Mean (± SD) levels of fear of devaluing one's self-estimate in females and males.*

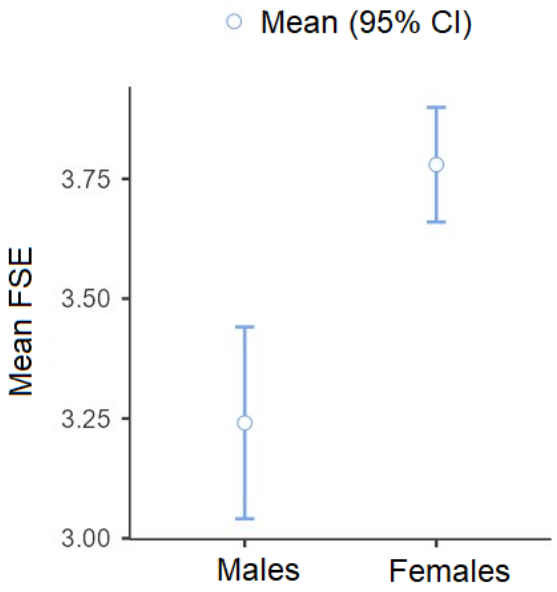

Figure 4. *Mean (± SD) levels of fear of experiencing shame and embarrassment in females and males.*

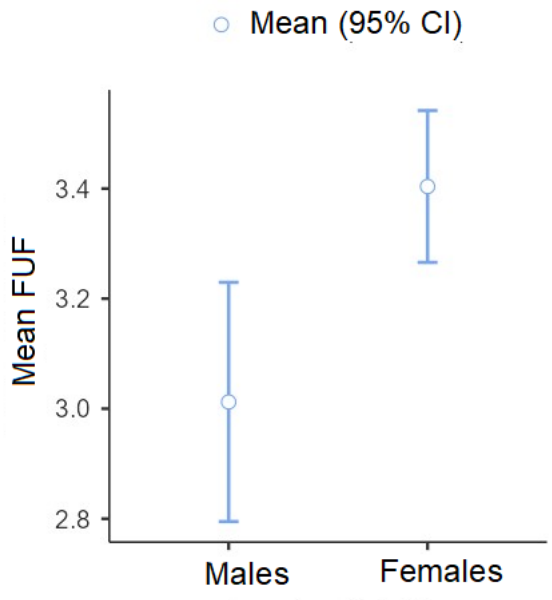

Figure 5. *Mean (± SD) levels of fear of having an uncertain future in females and males.*

For hypothesis 1, Pearson partial correlation coefficients were used to compare PFAI and PPS scores. The effect of gender was removed due to the higher levels of fear of failure found among females compared with males. A significant positive correlation was found between total fear of failure and total procrastination [$r(309) = .340$, $p < .001$]. A significant positive correlation was also found between total fear of failure and decisional procrastination [$r(309) = .310$, $p < .001$]. Additionally, a positive correlation was found between total fear of failure and timeliness/lateness forms of procrastination [$r(309) = .319$, $p < .001$]. A significant positive correlation was found between fear of important others losing interest and total procrastination [$r(309) = .331$, $p < .001$] and between fear of important others losing interest and timeliness/lateness forms of procrastination [$r(309) = .300$, $p < .001$]. A significant positive correlation was found between fear of having an uncertain future and timeliness/lateness forms of procrastination [$r(309) = .302$, $p < .001$]. Finally, a significant positive correlation was found between fear of experiencing shame or embarrassment and total procrastination [$r(309) = .302$, $p < .001$, see Table 1].

		PPS_TOT	PPS_DEC	PPS_IMP	PPS_LATE	PFAI_FSE	PFAI_FDSE	PFAI_FUF	PFAI_FIOLI	PFAI_FUIO	PFAI_TOT
PPS_TOT	Pearson's r	—									
	p-value	—									
PPS_DEC	Pearson's r	0.808	—								
	p-value	< .001	—								
PPS_IMP	Pearson's r	0.900	0.628	—							
	p-value	< .001	< .001	—							
PPS_LATE	Pearson's r	0.811	0.520	0.552	—						
	p-value	< .001	< .001	< .001	—						
PFAI_FSE	Pearson's r	0.302	0.291	0.242	0.246	—					
	p-value	< .001	< .001	< .001	< .001	—					
PFAI_FDSE	Pearson's r	0.189	0.185	0.141	0.167	0.629	—				
	p-value	< .001	0.001	0.013	0.003	< .001	—				
PFAI_FUF	Pearson's r	0.293	0.268	0.196	0.302	0.682	0.658	—			
	p-value	< .001	< .001	< .001	< .001	< .001	< .001	—			
PFAI_FIOLI	Pearson's r	0.331	0.289	0.262	0.300	0.603	0.471	0.491	—		
	p-value	< .001	< .001	< .001	< .001	< .001	< .001	< .001	—		
PFAI_FUIO	Pearson's r	0.261	0.222	0.184	0.271	0.659	0.419	0.563	0.611	—	
	p-value	< .001	< .001	0.001	< .001	< .001	< .001	< .001	< .001	—	
PFAI_TOT	Pearson's r	0.340	0.310	0.253	0.319	0.874	0.773	0.838	0.783	0.802	—
	p-value	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	—

Note. controlling for 'Gender_M1-F2'

Table 1. *Pearson partial correlation coefficients (with gender controlled) of the Pure Procrastination Scale (PPS) and Performance Failure Appraisal Inventory (PFAI) totals and subscales.*

PPS_TOT = procrastination, sum of subscales; PPS_DEC = procrastination, decisional; PPS_IMP = procrastination, delay in implementation; PPS_LATE = procrastination, timeliness/lateness; PFAI_FSE = fear of failure, fear of experiencing shame or embarrassment; PFAI_FDSE = fear of failure, fear of devaluing one's self estimate; PFAI_FUF = fear of failure, fear of having an uncertain future; PFAI_FIOLI = fear of failure, fear of important others losing interest; PFAI_FUIO = fear of failure, fear of upsetting important others; PFAI_TOT = fear of failure, sum of subscales

For hypothesis 2, Pearson correlation coefficients were used to compare PPS scores with all KIMS scores other than those for the acting with awareness subscale. Pearson partial correlation coefficients were used to compare PPS scores with acting with awareness subscale scores in order to account for gender differences found among

participants specifically for this subscale. The instrument used to measure mindfulness, the KIMS, does not provide a total mindfulness score. This is likely because mindfulness is a multi-faceted construct, a single term used to describe any of various kinds of mindful behaviors. Rather than providing a total mindfulness score, the KIMS provides a measure of mindfulness within four distinct scales: Observe, Describe, Act with Awareness, and Accept without Judgment. Therefore, support for the second hypothesis was gathered from correlations found between the four KIMS scales and the PPS total procrastination scale and subscales. Results of the correlational analyses indicated there was a significant negative correlation between the describing form of mindfulness and decisional procrastination [$r(309) = -.315$, $p < .001$, see Table 2]. Results of the partial correlational analyses indicated there was a significant negative correlation between the acting with awareness form of mindfulness and total procrastination [$r(309) = -.325$, $p < .001$]. Results also indicated a significant negative correlation between acting with awareness and the delay in implementation form of procrastination [$r(309) = -.314$, $p < .001$].

		PPS_TOT	PPS_DEC	PPS_IMP	PPS_LATE	KIMS_OBS	KIMS_DESC	KIMS_ACW
PPS_TOT	Pearson's r	—						
	p-value	—						
PPS_DEC	Pearson's r	0.808	—					
	p-value	< .001	—					
PPS_IMP	Pearson's r	0.898	0.629	—				
	p-value	< .001	< .001	—				
PPS_LATE	Pearson's r	0.805	0.511	0.539	—			
	p-value	< .001	< .001	< .001	—			
KIMS_OBS	Pearson's r	0.080	0.010	0.080	0.095	—		
	p-value	0.158	0.855	0.157	0.093	—		
KIMS_DESC	Pearson's r	-0.257	-0.315	-0.232	-0.122	0.389	—	
	p-value	< .001	< .001	< .001	0.032	< .001	—	
KIMS_ACW	Pearson's r	-0.108	-0.067	-0.122	-0.069	-0.057	0.092	—
	p-value	0.057	0.241	0.031	0.227	0.319	0.104	—

Table 2. *Pearson correlation coefficients of the Pure Procrastination Scale (PPS) totals and subscales and the Kentucky Inventory of Mindfulness Skills (KIMS) subscales.*

PPS_TOT = procrastination, sum of subscales; PPS_DEC = procrastination, decisional; PPS_IMP = procrastination, delay in implementation; PPS_LATE = procrastination, timeliness/lateness; KIMS_OBS = mindfulness, observing; KIMS_DESC = mindfulness, describing; KIMS_ACW = mindfulness, accepting without judgment

		PPS_TOT	PPS_DEC	PPS_IMP	PPS_LATE	KIMS_AWA
PPS_TOT	Pearson's r	—				
	p-value	—				
PPS_DEC	Pearson's r	0.808	—			
	p-value	< .001	—			
PPS_IMP	Pearson's r	0.900	0.628	—		
	p-value	< .001	< .001	—		
PPS_LATE	Pearson's r	0.811	0.520	0.552	—	
	p-value	< .001	< .001	< .001	—	
KIMS_AWA	Pearson's r	−0.325	−0.265	−0.314	−0.233	—
	p-value	< .001	< .001	< .001	< .001	—

Table 3. *Pearson partial correlation coefficients (with gender controlled) of the Pure Procrastination Scale (PPS) and the acting with awareness subscale of the Kentucky Inventory of Mindfulness Skills (KIMS).*

KIMS_AWA = mindfulness, acting with awareness

CHAPTER V

DISCUSSION

Interpretation of Scores

The goal of this study was to further clarify the relationships between fear of failure and procrastination and between mindfulness and procrastination. These topics have been studied in previous research but often with the consideration of other variables. This researcher set out to more clearly study the relationships between these variables and to expand upon the scarcity of research on mindfulness and procrastination.

The first hypothesis of this study posited that there is a significant positive correlation between fear of failure and procrastination. A significant positive correlation was found between total fear of failure and total procrastination. Therefore, the first hypothesis was supported.

Results also provide additional details as to what forms of each variable are correlated. Total fear of failure and decisional procrastination were found to be correlated. This supports the view that overall fear of failure may be experienced by individuals procrastinating by purposefully delaying or avoiding making decisions. Fear of important others losing interest and total procrastination were also correlated. This

supports the view that a fear of others perceiving one as less interesting or valuable due to failure may be experienced by individuals that procrastinate.

These findings extend our current understandings of fear of failure. Although previous research has studied the relationship between behavioral forms of procrastination and fear of failure (Schouwenburg, 1992), there has been scarce research related to other forms of fear of failure and procrastination. This study' findings provide a more nuanced understanding of how different kinds of fear of failure and procrastination may be related. They parse out the components that make up these multi-faceted constructs and accomplish this by using the more robust measurements provided by the PFAI and PPS. In the process of doing this, they find support for the view that fear of failure and procrastination are related.

The second hypothesis of this study posited that there is a significant negative correlation between mindfulness and procrastination. The KIMS measures mindfulness not as a single construct but instead as various behaviors. Due to this, it does not provide a total mindfulness score. It instead provides four individual scores, each representing a different mindfulness practice or trait. Support for the second hypothesis was determined by whether these individual mindfulness scores were correlated with any of the PPS scales and subscales. Various scales between both instruments were found to have been correlated with one another. A significant negative correlation was found between acting with awareness and total procrastination as well as acting with awareness and delay in implementation. A significant negative correlation was also found between describing and decisional procrastination. Therefore, findings supported the hypothesis that mindfulness and procrastination were negatively correlated. They more specifically

supported the view that mindfulness through focusing one's full attention on what one is doing was negatively correlated with overall procrastination and with purposeful delay in initiating a task. They also supported the view that mindfulness through recognizing and labeling one's thoughts, feelings, and observations in a nonjudgmental and objective way was negatively correlated with the avoidance of making decisions.

Much of these findings are consistent with prior research. For example, this study found support for a negative correlation between acting with awareness and total procrastination. Prior studies have found that mindfulness of one's emotional state and surroundings is negatively correlated with procrastination (Gautam, Polizzi, & Mattson, 2019). Similarly, a process focus, which is akin to mindfulness, has been found to be correlated with academic goal pursuit (Pham & Taylor, 1999) and the pursuit of health-related goals (Freund, Hennecke, & Mustafić, 2012). These pursuit behaviors can be considered the antithesis of procrastination, which is the delay of action. This study also found support for a negative correlation between describing observations in verbal, nonjudgmental manners and decisional procrastination. This complements a study by Schutte and de Bolger (2020), that found that participants asked to describe a task they might delay reported less procrastination when reporting higher levels of trait mindfulness. A distinction between this study's findings and Schutte and de Bolger's research was that describing in the former involved explaining observations whereas describing in the latter involved explaining tasks not yet carried out. This may indicate similarities based on the act of describing rather than the focus of what is being described.

Limitations

Procrastination is complex and multi-faceted. It can take many forms, such as procrastination with making a decision, approaching a responsibility, or completing a task. Additionally, procrastination is associated with various negative characteristics, such as perfectionism (Athulya, Sudhir, & Philip, 2016) and anxiety (Rothblum, Solomon, & Murakami, 1986). An entirely comprehensive study of procrastination would have required that all these factors be accounted for and studied. However, this would have been beyond the scope of this study. It was for this reason that procrastination was studied using a single instrument and that variables other than fear of failure and mindfulness were not considered.

Additionally, this study set out to examine correlational relationships between variables. The relationships between fear of failure, procrastination, and mindfulness were studied so that they might be clarified and so that future research might continue to elaborate upon them. Due to this, findings were correlational and were not meant to imply causation.

The demographics of the sample selected for this study are not nationally representative. A greater percentage of participants identified as White (n=254, 82%) than as other races. Differences in fear of failure, mindfulness, and procrastination may exist between racial or ethnic groups. However, studying these differences was outside the scope of this study.

Implications of Findings

While accounting for the limitations of the current study, future research into fear of failure, mindfulness, and procrastination may reveal additional ways in which they are related and may have implications for reducing procrastination. This is significant in no small part due to the deleterious factors associated with procrastination, such as perceived stress (Sirois, 2007), self-critical perfectionism (Athulya et al., 2016), and suicide proneness (Klibert et al., 2016).

Methods of addressing procrastination are already being explored. A study by Dinç and Halil (2019) revealed statistically significant reductions in academic procrastination and fear of failure among a sample of female students following a cognitive behavioral (CBT) group study. Despite having a small sample size (n = 20), this study's results are promising, especially considering the current study's findings that females have higher levels of various forms of fear of failure. Other studies have found positive effects of acceptance and commitment therapy (ACT) on reducing procrastination (Dionne et al, 2016). This is especially relevant to the current study considering the central role of mindfulness in ACT and the support found for a relationship between certain forms of mindfulness and procrastination.

Both CBT and ACT are evidence-based interventions for various kinds of psychological disorders and difficulties. Additionally, CBT is considered by many to be the gold standard of psychotherapy partly because it is the most researched and supported modality (David, Cristea, & Hofmann, 2018). It is likely that future research will further support the efficacy of CBT and ACT not only in treating psychological disorders and personal distress but also in reducing and preventing procrastination.

Directions for Future Research

Despite having some limitations, this study supports the idea that fear of failure and procrastination are positively correlated and mindfulness and procrastination are negatively correlated. This provides more insight into the nature of procrastination and these related variables. Continued research into the differential relationships between all three variables when mindfulness is at low, average, and high levels may further elucidate the complex nature of procrastination.

Future researchers may also seek to examine the relationships between these variables for different racial or ethnic groups. This may lead to deeper understandings of fear of failure, mindfulness, and procrastination and how they relate to the experiences of racial and ethnic minorities.

Additional research might seek to more causally explain the relationship between procrastination and other variables. These studies might focus on mindfulness techniques to determine if they have moderating influences on the relationship between fear of failure and procrastination. They may instead explore other possible means of reducing avoidance behaviors or related negative emotions.

There are considerable implications of this study on possible interventions for fear of failure and procrastination. Previous studies have found that certain treatments, such as cognitive-behavioral therapy (CBT) and acceptance and commitment therapy (ACT), are efficacious in addressing procrastination (Wang et al., 2017). An acknowledgment of the relationship between procrastination and other variables, such as fear of failure, may help to improve these treatments and broaden their impact. They may also point to ways to

help individuals more generally develop positive goal orientations and emotional regulation.

Future researchers may also explore how negative factors associated with fear of failure and procrastination can be addressed. Previous research has found that decisional procrastination is correlated with high boredom proneness and low self-esteem (Ferrari, 2000). Through exploring the relationship between total procrastination and decisional procrastination supported in this study, future researchers and clinicians may attempt to address boredom proneness and low self-esteem in more comprehensive ways.

The most promising direction for future researchers studying fear of failure, mindfulness, and procrastination may be that of studying how findings can be applied to clinical, academic, and occupational settings. As previously indicated, these three constructs and those factors related to them are often associated with negative situations and outcomes. Research in how to address these common experiences of fearing failure and procrastinating may point to ways in which the distress they cause can be alleviated. This could lead to better academic outcomes, improved mental health, and greater quality of life.

References:

Abele, A. E., Andra, M. S., & Schute, M. (1999). Who enters a job quickly after graduating? Results of a longitudinal study (BELA-E). *Zeitschrift fur Arbeits-und Organisationspsychologie, 43*(2), 95-101.

Alexander, E. S., & Onwuegbuzie, A. J. (2007). Academic procrastination and the role of hope as a coping strategy. *Personality and Individual Differences, 42*(7), 1301-1310.

Athulya, J., Sudhir, P. M., & Philip, M. (2016). Procrastination, perfectionism, coping and their relation to distress and self-esteem in college students. *Journal of the Indian Academy of Applied Psychology*, *42*(1), 82.

Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review*, *64*(6p1), 359.

Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, *11*(3), 191-206.

Barrows, J., Dunn, S., & Lloyd, C. A. (2013). Anxiety, Self-Efficacy, and College Exam Grades. *Universal Journal of Educational Research*, *1*(3), 204-208.

Bartels, J. M., & Ryan, J. J. (2013). Fear of Failure and Achievement Goals: A Canonical Analysis. *Journal of Instructional Psychology*, *40*.

Beery, R. G. (1975). Special feature: Fear of failure in the student experience. *The Personnel and Guidance Journal*, *54*(4), 191-203.

Bennett, C., & Bacon, A. M. (2019). At long last - A reinforcement sensitivity theory explanation of procrastination. *Journal of Individual Differences*, *40*(4), 234–241. https://doi.org/10.1027/1614-0001/a000296

Binder, K. (2000). *The effects of an academic procrastination treatment on student procrastination and subjective well-being* (Doctoral dissertation, Carleton University).

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, *11*(3), 230-241.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*(4), 822.

Brownlow, S., & Reasinger, R. D. (2000). Putting off until tomorrow what is better done today: Academic procrastination as a function of motivation toward college work. *Journal of Social Behavior and Personality*, *15*(5; SPI), 15-34.

Brunstein, J. C. (2018). Implicit and explicit motives. In *Motivation and Action* (pp. 369-405). Springer, Cham.

Cavusoglu, C., & Karatas, H. (2015). Academic procrastination of undergraduates: Self-determination theory and academic motivation. *The Anthropologist*, *20*(3), 735-743.

Chiesa, A., & Serretti, A. (2010). A systematic review of neurobiological and clinical features of mindfulness meditations. *Psychological Medicine*, *40*(8), 1239-1252.

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

Cismaru, M., Lavack, A. M., Hadjistavropoulos, H., & Dorsch, K. D. (2008). Understanding health behavior: an integrated model for social marketers. *Social Marketing Quarterly*, *14*(2), 2-32.

Conroy, D. E. (2001). Progress in the development of a multidimensional measure of fear of failure: The Performance Failure Appraisal Inventory (PFAI). *Anxiety, Stress and Coping*, *14*(4), 431-452.

Conroy, D. E. (2004). The unique psychological meanings of multidimensional fears of failing. *Journal of Sport & Exercise Psychology*, *26*(3), 484–491. https://doi-org.library.pittstate.edu/10.1123/jsep.26.3.484

Conroy, D. E., Kaye, M. P., & Fifer, A. M. (2007). Cognitive links between fear of failure and perfectionism. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 25*(4), 237-253.

Conroy, D. E., & Metzler, J. N. (2003). Temporal Stability of Performance Failure Appraisal Inventory Items. *Measurement in Physical Education & Exercise Science*, *7*(4), 243–261. https://doi-org.library.pittstate.edu/10.1207/S15327841MPEE0704_3

Conroy, D. E., Metzler, J. N., & Hofer, S. M. (2003). Factorial invariance and latent mean stability of performance failure appraisals. *Structural Equation Modeling*, *10*(3), 401-422.

Conroy, D. E., Willow, J. P., & Metzler, J. N. (2002). Multidimensional fear of failure measurement: The performance failure appraisal inventory. *Journal of Applied Sport Psychology*, *14*(2), 76-90.

Corr, P. J. (2008). Reinforcement sensitivity theory (RST): Introduction.

Covington, M. V., & Omelich, C. L. (1984). Task-oriented versus competitive learning structures: Motivational and performance consequences. *Journal of Educational Psychology*, *76*(6), 1038.

David, D., Cristea, I., & Hofmann, S. G. (2018). Why cognitive behavioral therapy is the current gold standard of psychotherapy. *Frontiers in Psychiatry*, *9*, 4.

De Castella, K., Byrne, D., & Covington, M. (2013). Unmotivated or motivated to fail? A cross-cultural study of achievement motivation, fear of failure, and student disengagement. *Journal of Educational Psychology*, *105*(3), 861.

Dinç, S., & Halil, E. K. (2019). A psychological counseling study on fear of failure and academic procrastination with a spiritually oriented cognitive behavioral group. *Spiritual Psychology and Counseling, 4*(3), 219-235.

Dionne, F. (2016). Using acceptance and mindfulness to reduce procrastination among university students: Results from a pilot study. *Revista Prâksis, 1*, 8-20.

Doll, A., Hölzel, B. K., Bratec, S. M., Boucard, C. C., Xie, X., Wohlschläger, A. M., & Sorg, C. (2016). Mindful attention to breath regulates emotions via increased amygdala–prefrontal cortex connectivity. *Neuroimage*, *134*, 305-313.

Dornyei, Z., & Ottó, I. (1998). Motivation in action: A process model of L2 motivation.

Dryden, W., Neenan, M., & Yankura, J. (1999). *Counselling individuals: A rational emotive behavioural handbook* (Vol. 19). Wiley.

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, *72*(1), 218.

Elliot, A. J., & McGregor, H. A. (1999). Test anxiety and the hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, *76*(4), 628.

Elliot, A. J., & Thrash, T. M. (2004). The intergenerational transmission of fear of failure. *Personality and Social Psychology Bulletin*, *30*(8), 957-971.

Evans, D. R., Baer, R. A., & Segerstrom, S. C. (2009). The effects of mindfulness and self-consciousness on persistence. *Personality and Individual Differences*, *47*(4), 379-382.

Fatimah, O., Lukman, Z. M., Khairudin, R., Wan Shahrazad, W. S., & Halim, F. W. (2011). Procrastination's relation with fear of failure, competence expectancy and intrinsic motivation. *Pertanika Journal of Social Science and Humanities, 19,* 123-127.

Fernie, B. A., McKenzie, A. M., Nikčević, A. V., Caselli, G., & Spada, M. M. (2016). The contribution of metacognitions and attentional control to decisional procrastination. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, *34*(1), 1-13.

Ferrari, J. R. (1992). Psychometric validation of two procrastination inventories for adults: Arousal and avoidance measures. *Journal of Psychopathology and Behavioral Assessment, 14*(2), 97-110.

Ferrari, J. R. (2000). Procrastination and attention: Factor analysis of attention deficit, boredomness, intelligence, self-esteem, and task delay frequencies. *Journal of Social Behavior and Personality, 15*(5; SPI), 185-196.

Ferrari, J. R., Barnes, K. L., & Steel, P. (2009). Life regrets by avoidant and arousal procrastinators: Why put off today what you will regret tomorrow? *Journal of Individual Differences, 30*(3), 163–168. https://doi-org.library.pittstate.edu/10.1027/1614-0001.30.3.163

Ferrari, J. R., Johnson, J. L., & McCown, W. G. (1995). *Procrastination and task avoidance: Theory, research, and treatment*. Springer Science & Business Media.

Ferrari, J. R., Tice, D. M. (2000). Procrastination as a self-handicap for men and women: A task-avoidance strategy in a laboratory setting. *Journal of Research in Personality, 34*(1), 73–83.

Freund, A. M., Hennecke, M., & Mustafić, M. (2012). On gains and losses, means and ends: Goal orientation and goal focus across adulthood. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (pp. 280–300). Oxford University Press.

Freund, A. M., Hennecke, M., & Riediger, M. (2010). Age-related differences in outcome and process goal focus. *European Journal of Developmental Psychology, 7*(2), 198-222.

Gautam, A., Polizzi, C. P., & Mattson, R. E. (2019). Mindfulness, procrastination, and anxiety: Assessing their interrelationships. *Psychology of Consciousness: Theory, Research, and Practice.* https://doi.org/10.1037/cns0000209

Germer, C. K., Siegel, R. D., & Fulton, P. R. (2005). *Mindfulness and psychotherapy*. Guilford press.

Gray, J. A. (1981). A Critique of Eysenck's Theory of Personality. In Eysenck, H.J. (Ed.) *A Model for Personality*. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-67783-0_8

Gray, J. A. (1987a). Perspectives on anxiety and impulsivity: A commentary. *Journal of Research in Personality, 21*(4), 493–509. https://doi.org/10.1016/0092-6566(87)90036-5

Gray, J. A. (1987b). The psychology of fear and stress (Vol. 5). Cambridge University Press.

Gustavson, D. E., Miyake, A., Hewitt, J. K., & Friedman, N. P. (2015). Understanding the cognitive and genetic underpinnings of procrastination: Evidence for shared genetic influences with goal management and executive function abilities. *Journal of Experimental Psychology: General*, *144*(6), 1063–1079. https://doi.org/10.1037/xge0000110

Haghbin, M., McCaffrey, A., & Pychyl, T. A. (2012). The complexity of the relation between fear of failure and procrastination. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, *30*(4), 249-263.

Heeren, A., & Philippot, P. (2011). Changes in ruminative thinking mediate the clinical benefits of mindfulness: Preliminary findings. *Mindfulness*, *2*(1), 8-13.

Heeren, A., Van Broeck, N., & Philippot, P. (2009). The effects of mindfulness on executive processes and autobiographical memory specificity. *Behaviour Research and Therapy*, *47*(5), 403-409.

Herman, W. E. (1990). Fear of failure as a distinctive personality trait measure of test anxiety. *Journal of Research & Development in Education*.

Hjeltnes, A., Binder, P. E., Moltu, C., & Dundas, I. (2015). Facing the fear of failure: An explorative qualitative study of client experiences in a mindfulness-based stress reduction program for university students with academic evaluation anxiety. *International Journal of Qualitative Studies on Health and Well-being*, *10*(1), 27990.

Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, *78*(2), 169–183. https://doi-org.library.pittstate.edu/10.1037/a0018555

Janes, L. M., & Olson, J. M. (2000). Jeer pressure: The behavioral effects of observing ridicule of others. *Personality and Social Psychology Bulletin, 26*(4), 474-485.

Jha, A. P., Krompinger, J., & Baime, M. J. (2007). Mindfulness training modifies subsystems of attention. *Cognitive, Affective, & Behavioral Neuroscience*, *7*(2), 109-119.

Joubert, C. E. (1990). Relationship among self-esteem, psychological reactance, and other personality variables. *Psychological Reports*, *66*(3_suppl), 1147-1151.

Kachgal, M. M., Hansen, L. S., & Nutter, K. J. (2001). Academic procrastination prevention/intervention: Strategies and recommendations. *Journal of Developmental Education*, *25*(1), 14.

Kaftan, O. J. (2018). *The dynamics underlying procrastination: goal focus as a predictor of activity evaluations and its role for goal pursuit* (Doctoral dissertation, University of Zurich).

Kaftan, O. J., & Freund, A. M. (2019). A motivational perspective on academic procrastination: Goal focus affects how students perceive activities while procrastinating. *Motivation Science, 5*(2), 135–156. https://doi.org/10.1037/mot0000110

Katz, I., Assor, A., Kanat-Maymon, Y., & Bereby-Meyer, Y. (2006). Interest as a motivational resource: Feedback and gender matter, but interest makes the difference. Social Psychology of Education, 9, 27–42. doi:10.1007/s11218-005-2863-7.

Katz, I., Eilot, K., & Nevo, N. (2014). "I'll do it later": Type of motivation, self-efficacy and homework procrastination. *Motivation and Emotion*, *38*(1), 111-119.

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

Klibert, J., LeLeux-LaBarge, K., Tarantino, N., Yancey, T., & Lamis, D. A. (2016). Procrastination and suicide proneness: A moderated-mediation model for cognitive schemas and gender. *Death Studies, 40*(6), 350–357. https://doi.org/10.1080/07481187.2016.1141262

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

Komarraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The Big Five personality traits, learning styles, and academic achievement. *Personality and Individual Differences, 51*(4), 472-477.

Krause, K., & Freund, A. M. (2014). How to beat procrastination: The role of goal focus. *European Psychologist, 19*(2), 132-144. doi:10.1027/1016-9040/a000153

Krause, K., & Freund, A. M. (2016). It's in the means: Process focus helps against procrastination in the academic context. *Motivation and Emotion, 40*(3), 422-437.

Kuhl, J. (1984). Volitional aspects of achievement motivation and learned helplessness: toward a comprehensive theory of action control. *Progress in Experimental Personality Research, 13*, 99-171.

Kuhl, J. (1985). Volitional mediators of cognition-behavior consistency: Self-regulatory processes and action versus state orientation. In *Action Control* (pp. 101-128). Springer, Berlin, Heidelberg.

Lazarus, R.S., & Folkman, S. 1984. *Stress, Appraisal, and Coping*. Retrieved from http://books.google.com.

Lerche, V., Neubauer, A. B., & Voss, A. (2018). Effects of implicit fear of failure on cognitive processing: A diffusion model analysis. *Motivation and Emotion, 42*(3), 386–402. https://doi-org.library.pittstate.edu/10.1007/s11031-018-9691-5

Mahone, C. H. (1960). Fear of failure and unrealistic vocational aspiration. *The Journal of Abnormal and Social Psychology, 60*(2), 253–261. https://doi-org.library.pittstate.edu/10.1037/h0047588

McClelland, D., Atkinson, J., Clark, R., & Lowell, E. (1953). The achievement motive. East Norwalk, CT: Appleton-Century-Crofts.

McGregor, H. A., & Elliot, A. J. (2005). The shame of failure: Examining the link between fear of failure and shame. *Personality and Social Psychology bulletin, 31*(2), 218-231.

Menec, V. H., & Schonwetter, D. J. (1994). *Action Control, Motivation, and Academic Achievement*. Retrieved from https://files.eric.ed.gov/fulltext/ED368991.pdf

Milgram, N. A. (1987). *The Many Faces of Procrastination Implications and Recommendations for Counselors*. Retrieved from https://eric.ed.gov/?id=ED290103

Milgram, N., & Tenne, R. (2000). Personality correlates of decisional task avoidant procrastination. *European Journal of Personality, 14*(2), 141–156. https://doi-

org.library.pittstate.edu/10.1002/(SICI)1099-0984(200003/04)14:2<141::AID-PER369>3.0.CO;2-V

Miller, M. V. (1989). Introduction to Gestalt Therapy Verbatim. *Gestalt Journal*.

Mzoughi, N., Garrouch, K., Bouhlel, O., & Negra, A. (2007). Online Procrastination: A Predictive Model. *Journal of Internet Business*, (4).

Neff, K. D., & Dahm, K. A. (2015). Self-compassion: What it is, what it does, and how it relates to mindfulness. In *Handbook of mindfulness and self-regulation* (pp. 121-137). New York, NY: Springer.

Neff, K. D., Hsieh, Y. P., & Dejitterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity*, *4*(3), 263-287.

Neureiter, M., & Traut-Mattausch, E. (2016). An inner barrier to career development: Preconditions of the impostor phenomenon and consequences for career development. *Frontiers in Psychology*, *7*, 48.

Onwuegbuzie, A. J., & Collins, K. M. (2001). Writing apprehension and academic procrastination among graduate students. *Perceptual and Motor Skills*, *92*(2), 560-562.

Patrick, H., & Williams, G. C. (2012). Self-determination theory: its application to health behavior and complementarity with motivational interviewing. *International Journal of Behavioral Nutrition and Physical Activity*, *9*(1), 18.

Pham, L. B., & Taylor, S. E. (1999). From thought to action: Effects of process-versus outcome-based mental simulations on performance. *Personality and Social Psychology Bulletin*, *25*(2), 250-260.

Procee, R., Kamphorst, B. A., van Wissen, A., & Meyer, J. J. (2013). A formal model of procrastination.

Puca, R. M., & Schmalt, H. D. (1999). Task enjoyment: A mediator between achievement motives and performance. *Motivation and Emotion, 23*(1), 15-29.

Pychyl, T. A., Lee, J. M., Thibodeau, R., & Blunt, A. (2000). Five days of emotion: An experience sampling study of undergraduate student procrastination. *Journal of Social Behavior and Personality*, *15*(5), 239.

Rakes, G. C., & Dunn, K. E. (2010). The Impact of Online Graduate Students' Motivation and Self-Regulation on Academic Procrastination. *Journal of Interactive Online Learning*, *9*(1).

Rebetez, M. M. L., Rochat, L., Barsics, C., & Van der Linden, M. (2018). Procrastination as a self-regulation failure: The role of impulsivity and intrusive thoughts. *Psychological Reports*, *121*(1), 26-41.

Reese, E. D., Zielinski, M. J., & Veilleux, J. C. (2015). Facets of mindfulness mediate behavioral inhibition systems and emotion dysregulation. *Personality and Individual Differences*, *72*, 41-46.

Reinecke, L., & Hofmann, W. (2016). Slacking off or winding down? An experience sampling study on the drivers and consequences of media use for recovery versus procrastination. *Human Communication Research*, *42*(3), 441-461.

Rothblum, E. D. (1990). Fear of failure. In *Handbook of social and evaluation anxiety* (pp. 497-537). Springer, Boston, MA.

Rothblum, E. D., Solomon, L. J., & Murakami, J. (1986). Affective, cognitive, and behavioral differences between high and low procrastinators. *Journal of Counseling Psychology*, *33*(4), 387.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68.

Sagar, S. S., & Jowett, S. (2010). Validation of a Multidimensional Measure of Fear of Failure in a British Sample: The Performance Failure Appraisal Inventory (PFAI). *International Journal of Coaching Science*, *4*(1).

Scent, C. L., & Boes, S. R. (2014). Acceptance and commitment training: A brief intervention to reduce procrastination among college students. *Journal of College Student Psychotherapy*, *28*(2), 144-156.

Schmalt, H. D. (1999). Assessing the achievement motive using the grid technique. *Journal of Research in Personality*, *33*(2), 109-130.

Schouwenburg, H. C. (1992). Procrastinators and fear of failure: an exploration of reasons for procrastination. *European Journal of Personality, 6*(3), 225–236. https://doi-org.library.pittstate.edu/10.1002/per.2410060305

Schouwenburg, H. C., & Lay, C. H. (1995). Trait procrastination and the big-five factors of personality. *Personality and Individual Differences*, *18*(4), 481-490.

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

Schutte, N. S., & de Bolger, A. D. P. (2020). Greater Mindfulness is Linked to Less Procrastination. *International Journal of Applied Positive Psychology*, 1-12.

Senecal, C., Koestner, R., & Vallerand, R. J. (1995). Self-regulation and academic procrastination. *The Journal of Social Psychology*, *135*(5), 607-619.

Seo, E. H. (2008). Self-efficacy as a mediator in the relationship between self-oriented perfectionism and academic procrastination. *Social Behavior and Personality: an International Journal*, *36*(6), 753-764.

Seo, E. H. (2009). The relationship of procrastination with a mastery goal versus an avoidance goal. *Social Behavior and Personality: an International Journal*, *37*(7), 911-919.

Shahidi, S., Akbari, H., & Zargar, F. (2017). Effectiveness of mindfulness-based stress reduction on emotion regulation and test anxiety in female high school students. *Journal of Education and Health Promotion*, *6*.

Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, *62*(3), 373-386.

Sideridis, G. D. (2008). The regulation of affect, anxiety, and stressful arousal from adopting mastery-avoidance goal orientations. *Stress and Health: Journal of the International Society for the Investigation of Stress*, *24*(1), 55-69.

Silver, M., Sabini, J. (1981). Procrastinating. *Journal for the Theory of Social Behaviour, 11*, 207–221.

Singh, K., Junnarkar, M., & Kaur, J. (2016). *Measures of Positive Psychology: Development and Validation*. https:/doi.org/10.1007/978-81-322-3631-3

Sirois, F. M. (2007). "I'll look after my health, later": A replication and extension of the procrastination–health model with community-dwelling adults. *Personality and Individual Differences, 43*(1), 15-26.

Sirois, F. M. (2014). Procrastination and stress: Exploring the role of self-compassion. *Self and Identity*, *13*(2), 128-145.

Sirois, F. M. (2019). Trait procrastination undermines outcome and efficacy expectancies for achieving health-related possible selves. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues.* https://doi-org.library.pittstate.edu/10.1007/s12144-019-00338-2

Sirois, F. M., & Tosti, N. (2012). Lost in the moment? An investigation of procrastination, mindfulness, and well-being. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, *30*(4), 237-248.

Solomon, L. J., & Rothblum, E. D. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of Counseling Psychology, 31*(4), 503–509. https://doi-org.library.pittstate.edu/10.1037/0022-0167.31.4.503

Snyder, C.R., Irving, L., & Anderson, J.R. (1991). Hope and Health: Measuring the will and the ways. In C.R. Snyder & D.R. Forsyth (Eds.) Handbook of social and clinical psychology: The health perspective (pp.285-305). Elmsford, New York: Pergamon Press. Cited in Snyder, C.R. (2000). Hypothesis: There is Hope. In C.R. Snyder (Eds.), *Handbook of Hope Theory, Measures and Applications* (pp.3-21). San Diego: Academic Press.

Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological bulletin*, *133*(1), 65.

Steel, P. (2010). Arousal, avoidant and decisional procrastinators: Do they exist?. *Personality and Individual Differences*, *48*(8), 926-934.

Steel, P., & König, C. J. (2006). Integrating theories of motivation. *Academy of Management Review*, *31*(4), 889-913.

Stoeber, J. (2014). How other-oriented perfectionism differs from self-oriented and socially prescribed perfectionism. *Journal of Psychopathology and Behavioral Assessment, 36*(2), 329-338.

Svartdal, F., & Steel, P. (2017). Irrational delay revisited: examining five procrastination scales in a global sample. *Frontiers in Psychology*, *8*, 1927.

Tang, Y. Y., Yang, L., Leve, L. D., & Harold, G. T. (2012). Improving executive function and its neurobiological mechanisms through a mindfulness-based intervention: Advances within the field of developmental neuroscience. *Child Development Perspectives*, *6*(4), 361-366.

Thompson, T. & Parker, C. (2007). Diagnosing the poor performance of self-worth protective students: A product of future outcome uncertainty, evaluative threat, or both? Educational Psychology, 27(1), 111-134.

Tice, D. M., & Bratslavsky, E. (2000). Giving in to feel good: The place of emotion regulation in the context of general self-control. *Psychological Inquiry*, *11*(3), 149-159.

Troyer, J. (2018). *Predicting Meditation from Mindfulness, Procrastination, Job Engagement, and Burnout: Avenues to Enhance the Job Demands-Resources Model* (Doctoral dissertation, Capella University).

Turner, J. E. (1998). *An investigation of shame reactions, motivation, and achievement in a difficult college course* (Doctoral dissertation, ProQuest Information & Learning).

Vangsness, L., & Young, M. E. (2020). Turtle, Task Ninja, or Time Waster? Who Cares? Traditional Task-Completion Strategies Are Overrated. *Psychological Science*, 0956797619901267.

Von Stietz, J. (2018). *Implicit Theories of Ability, Achievement Goals, and Self-handicapping in Strength-Athletes* (Doctoral dissertation, Alliant International University).

Wang, S., Zhou, Y., Yu, S., Ran, L.-W., Liu, X.-P., & Chen, Y.-F. (2017). Acceptance and Commitment Therapy and Cognitive–Behavioral Therapy as Treatments for Academic Procrastination: A Randomized Controlled Group Session. *Research on Social Work Practice, 27*(1), 48–58. https://doi.org/10.1177/1049731515577890

Wolf, L., Stidham, A. W., & Ross, R. (2015). Predictors of stress and coping strategies of US accelerated vs. generic baccalaureate nursing students: An embedded mixed methods study. *Nurse Education Today*, *35*(1), 201-205.

Wolters, C. A. (2003). Understanding procrastination from a self-regulated learning perspective. *Journal of Educational Psychology, 95*(1), 179–187. https://doi-org.library.pittstate.edu/10.1037/0022-0663.95.1.179

Zarick, L. M., & Stonebraker, R. (2009). I'll do it Tomorrow: The Logic of Procrastination. *College Teaching*, *57*(4), 211-215.

Zhang, Y., Dong, S., Fang, W., Chai, X., Mei, J., & Fan, X. (2018). Self-efficacy for self-regulation and fear of failure as mediators between self-esteem and academic procrastination among undergraduates in health professions. *Advances in Health Sciences Education, 23*(4), 817-830.

Zhang, S., & Feng, T. (2020). Modeling procrastination: Asymmetric decisions to act between the present and the future. *Journal of Experimental Psychology: General*, *149*(2), 311–322. https://doi-org.library.pittstate.edu/10.1037/xge0000643.supp

APPENDICES

APPENDIX A

Pure Procrastination Scale (PPS)

1.) I delay making decisions until it's too late.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

2.) Even after I make a decision I delay acting upon it.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

3.) I waste a lot of time on trivial matters before getting to the final decisions.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

4.) In preparation for some deadlines, I often waste time by doing other things.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

5.) Even jobs that require little else except sitting down and doing them, I find that they seldom get done for days.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree

- ○ Strongly agree

6.) I often find myself performing tasks that I had intended to do days before.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

7.) I am continually saying "I'll do it tomorrow."

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

8.) I generally delay before starting on work I have to do.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

9.) I find myself running out of time.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

10.) I don't get things done on time.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

11.) I am not very good at meeting deadlines.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

12.) Putting things off till the last minute has cost me money in the past.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither agree nor disagree
- ○ Agree
- ○ Strongly agree

APPENDIX B

The Performance Failure Appraisal Inventory (Long-Form, 25 Items)
Form B

Response Scale

-2	-1	0	+1	+2
Do Not Believe At All		Believe 50% of the Time		Believe 100% of the Time

_____ 1. When I am failing, it is often because I am not smart enough to perform successfully.
_____ 2. When I am failing, my future seems uncertain.
_____ 3. When I am failing, it upsets important others.
_____ 4. When I am failing, I blame my lack of talent.
_____ 5. When I am failing, I believe that my future plans will change.
_____ 6. When I am failing, I expect to be criticized by important others.
_____ 7. When I am failing, I am afraid that I might not have enough talent.
_____ 8. When I am failing, it upsets my "plan" for the future.
_____ 9. When I am failing, I lose the trust of people who are important to me.
_____ 10. When I am not succeeding, I am less valuable than when I succeed.
_____ 11. When I am not succeeding, people are less interested in me.
_____ 12. When I am failing, I am worried about it affecting my future plans.
_____ 13. When I am not succeeding, people seem to want to help me less.
_____ 14. When I am failing, important others are not happy.
_____ 15. When I am not succeeding, I get down on myself easily.
_____ 16. When I am failing, I hate the fact that I am not in control of the outcome.
_____ 17. When I am not succeeding, people tend to leave me alone.
_____ 18. When I am failing, it is embarrassing if others are there to see it.
_____ 19. When I am failing, important others are disappointed.
_____ 20. When I am failing, I believe that everybody knows I am failing.
_____ 21. When I am not succeeding, some people are not interested in me anymore.
_____ 22. When I am failing, I believe that my doubters feel that they were right about me.
_____ 23. When I am not succeeding, my value decreases for some people.
_____ 24. When I am failing, I worry about what others think about me.
_____ 25. When I am failing, I worry that others may think I am not trying

APPENDIX C

Kentucky Inventory of Mindfulness Skills
Ruth A. Baer, Ph.D.
University of Kentucky

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

1	2	3	4	5
Never or very rarely true	Rarely true	Sometimes true	Often true	Very often or always true

_____1. I notice changes in my body, such as whether my breathing slows down or speeds up.

_____2. I'm good at finding the words to describe my feelings.

_____3. When I do things, my mind wanders off and I'm easily distracted.

_____4. I criticize myself for having irrational or inappropriate emotions.

_____5. I pay attention to whether my muscles are tense or relaxed.

_____6. I can easily put my beliefs, opinions, and expectations into words.

_____7. When I'm doing something, I'm only focused on what I'm doing, nothing else.

_____8. I tend to evaluate whether my perceptions are right or wrong.

_____9. When I'm walking, I deliberately notice the sensations of my body moving.

_____10. I'm good at thinking of words to express my perceptions, such as how things taste, smell, or sound.

_____11. I drive on "automatic pilot" without paying attention to what I'm doing.

_____12. I tell myself that I shouldn't be feeling the way I'm feeling.

_____13. When I take a shower or bath, I stay alert to the sensations of water on my body.

_____14. It's hard for me to find the words to describe what I'm thinking.

_____15. When I'm reading, I focus all my attention on what I'm reading.

_____16. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.

_____17. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.

_____18. I have trouble thinking of the right words to express how I feel about things.

_____19. When I do things, I get totally wrapped up in them and don't think about anything else.

_____20. I make judgments about whether my thoughts are good or bad.

_____21. I pay attention to sensations, such as the wind in my hair or sun on my face.

_____22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.

_____23. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.

_____24. I tend to make judgments about how worthwhile or worthless my experiences are.

_____25. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.

_____26. Even when I'm feeling terribly upset, I can find a way to put it into words.

_____27. When I'm doing chores, such as cleaning or laundry, I tend to daydream or think of other things.

_____28. I tell myself that I shouldn't be thinking the way I'm thinking.

_____29. I notice the smells and aromas of things.

_____30. I intentionally stay aware of my feelings.

_____31. I tend to do several things at once rather than focusing on one thing at a time.

_____32. I think some of my emotions are bad or inappropriate and I shouldn't feel them.

_____33. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.

_____34. My natural tendency is to put my experiences into words.

_____35. When I'm working on something, part of my mind is occupied with other topics, such as what I'll be doing later, or things I'd rather be doing.

_____36. I disapprove of myself when I have irrational ideas.

_____37. I pay attention to how my emotions affect my thoughts and behavior.

_____38. I get completely absorbed in what I'm doing, so that all my attention is focused on it.

_____39. I notice when my moods begin to change.

APPENDIX D

Demographic Information

Gender:
Three options were provided for gender: female, male, and an option for those that preferred not to answer.

Gender options:

- Female
- Male
- Prefer not to answer

Age:
Individuals were asked to participate in this study only if they were aged 18 or older.

Respondents were the given the option of inputting their age in a free-form text field or indicating they preferred not to answer.

Age options:

- (free-form text field with age input by respondent)
- Prefer not to answer

Ethnicity and Race:
Demographic information regarding ethnicity and race was collected in a combined format and modeled after the standards for collecting demographic information set forth by the United States Office of Management and Budget. Respondents were given the option of selecting more than one response, if desired. An additional option was included for those that preferred not to answer.

Ethnicity options:

- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White
- Prefer not to answer

Academic Information:
Academic information requested of participants consisted of class standing and major with options for those that preferred not to answer. Due to the self-reported nature of

class standing information, responses are independent of university-recognized standards determined by number of credits earned.

Class standing options:

- Freshman
- Sophomore
- Junior
- Senior
- Non-degree seeking
- Prefer not to answer

Academic major options:

- Art
- Automotive Technology
- Biology
- Business
- Chemistry
- Communication
- Construction
- Engineering Technology
- English and Modern Languages
- Family and Consumer Services
- Graphics and Imaging Technologies
- Health, Human Performance, and Recreation
- History, Philosophy, and Social Sciences
- Interdisciplinary and Pre-professional Programs
- Mathematics
- Military Science
- Music
- Nursing
- Physics
- Psychology and Counseling
- Teaching and Leadership
- Technology and Workforce Learning
- Undecided
- Non-degree seeking
- Prefer not to answer