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# The Fine Line of Perfectionism: Is It a Strength or a Weakness in the Workplace?

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THE FINE LINE OF PERFECTIONISM:  
IS IT A STRENGTH OR A WEAKNESS IN THE WORKPLACE?

by

Lindsay A. Bousman

A DISSERTATION

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THE FINE LINE OF PERFECTIONISM:  
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University of Nebraska, 2007

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Perfectionism has been traditionally researched in the clinical psychology domain. While some research has used a normal student population, research applying perfectionism theories to a normal adult population working in Corporate America has not been conducted. Current research suggests two distinct types of perfectionism, maladaptive and adaptive, with different consequences. In this research, maladaptive and adaptive perfectionism were used to determine that traditional perfectionism measures can be used with a working adult sample to achieve similar psychometric properties, and to preliminarily test hypotheses related to their relationship with other individual difference variables. Second, maladaptive and adaptive perfectionism were used to determine if there were differences in these types of perfectionists on work-related outcomes such as stress, burnout, personality, job satisfaction, and job performance. The [Frost] Multidimensional Perfectionism Scale of six factors showed sufficient psychometric properties to be used with a normal adult sample of corporate employees. Across two studies, one with employed students and one with adult professional employees, adaptive perfectionists reported lower levels of stress, and burnout; were more Conscientious, Agreeable and less Neurotic; were more promotion focused than prevention focused; and reported higher levels of job satisfaction. The hypothesis testing the relationship between these two types of perfectionism and job performance was supported using a future-oriented measure, but not the annual performance review measure. Stress and burnout were also shown to be full mediators between maladaptive perfectionism subscales and job satisfaction, but not job performance. Overall, this research lends strong support for the use of perfectionism measures in non-clinical populations to identify adaptive and maladaptive perfectionists. More importantly, it serves to showcase that adaptive perfectionists can be a strength in the workplace: more Conscientious, Agreeable,

Emotionally Stable, less stressed and burned out, more focused on positive outcomes, and more satisfied with their company and jobs. Maladaptive perfectionists can be a weakness for a workplace. There can be a downside to perfectionism related to higher stress and burnout, focused on preventing failures instead of promoting future success, and lower job and company satisfaction. Implications and future research are discussed applicable to academic and in-business research.

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## THE FINE LINE OF PERFECTIONISM: IS IT A STRENGTH OR A WEAKNESS IN THE WORKPLACE?

Perfect. The single word has strong connotations for many people. Webster's Dictionary (P.S.I., 1987, p. 274) defines it as "complete, faultless, correct, of the highest quality" and online as "being entirely without fault or defect" (Merriam-Webster Online, 2005a). Whether you are a student, a professor, an entertainer, an athlete, a blue-collar or a white-collar worker, it is probable you have heard the word, or you say the word. You may expect it from others, or it is expected of you. It is either a high expectation from one side, or perhaps an unreachable goal-state from the other side. No matter which side of the word you are on, it can elicit a reaction. You remember the "perfect" student, the "perfect" paper, the "perfect" performance, the "perfect" game. In many cases, producing a "perfect" product requires a unique combination of traits and behaviors from within a person, commonly referred to as *perfectionism*. Therefore, perfectionism is defined in *Webster's Dictionary* (Merriam-Webster Online, 2005b) online as "a disposition to regard anything short of perfection as unacceptable".

In the professional and corporate world, perfectionism is regularly thought of by recruiters, employers, managers, and employees alike as a positive trait which enables an employee to strive toward a perfect performance/product. However, there is a "dark side" of perfectionism, typically explored in and attributed to clinical populations. The "dark side" could lead to behaviors typically associated with clinical disorders, such as obsessive-compulsive disorder, eating disorders, depression, health problems and severe stress (Flett & Hewitt, 2002; Hewitt & Flett, 1991a). The "dark side" observed with clinical populations should be examined to determine if it applies to more normal

populations, and specifically to the working professional. What is explored here is perfectionism as an employee-based trait and set of behaviors and cognitions related to behaviors on the job in terms of performance and attitude. Perfectionism is a complex construct, a multi-faceted trait, and can be exhibited in different types of behaviors in a normal population.

Perfectionism has been studied extensively in relation to health and psychological problems, for example with bulimics and anorexics, obsessive-compulsive disorders, and with regards to the developmental patterns that may influence its occurrence (Flett & Hewitt, 2002). However, only a handful of studies have investigated the effects of perfectionism in normal working populations (Benson, 2003; Burke, 2001; Kersting, 2004). Research has been conducted on “workaholics”, however this construct differs from perfectionism (Burke, 2001; Scott, Moore, & Miceli, 1997; Snir & Harpaz, 2004), as will be described further below. While research is limited, non-empirical work suggests that perfectionism may be beneficial.

For example, in interviewing workshops and books (Drake, 1997), authors and experts will tell applicants to take a strength and use it as their example of a weakness. Job candidates may likely use “I am a perfectionist” as their weakness in an interview; but then it can also be viewed as a strength by managers. Yet, before this study was conducted we could not find any scientific evidence as to the relationship between perfectionism and outcomes, such as work performance. There has been some research on perfectionism and its relationship to other outcomes, such as stress and hopelessness (Dunkley & Blankstein, 2000; Mitchelson & Burns, 1998; O’Connor & O’Connor, 2003; O’Connor, O’Connor, O’Connor, Smallwood & Miles, 2004). Those studies linking

perfectionism with outcomes have not researched the specific impact to working professionals and their job performance. Therefore, we do not conclusively know the answer to this question: “Is perfectionism a strength or a weakness in the workplace?” or to this one: “Is there a difference based on the level of perfectionism or the motivation behind the perfectionism?” These are the questions that need to be explored or answered to push the perfectionism research forward in this new domain. The research attempted to provide a scientific beginning for applying perfectionism research in the workplace.

### *History and Origins of Perfectionism*

Much of the recent perfectionism research has been derived from years of clinical studies with such populations as adolescents with eating disorders, through family studies relating a parent’s perfectionistic tendencies to a child’s behaviors, or through studies of special populations such as extremely intelligent and academically talented or genius-level children (Flett & Hewitt, 2002). This review will guide the reader through a brief historical tour of perfectionism research which led to the current clinical-based definitions, and then provide the definitions that will be used for this research study. Though most of the relevant measures are described in the Methods section, some measures may be highlighted earlier because the definitions are so closely tied to the measures used in this line of research.

Perfectionism has a history rooted in clinical studies and psychopathology. The major researchers of the late 1970s and early 1980s were Pacht, Hamacheck, and Burns. These researchers each have a slightly different view of perfectionism, its definition, and their own interpretations of the origins and implications of perfectionism. They also typically studied perfectionists as part of clinical populations, usually in people who had

sought psychological treatment or counseling. Perfectionism definitions are typically divided into three camps: definitions in which perfectionism is a unitary concept, as a dyadic construct of two views, or as a multidimensional construct of multiple facets. Each of these views has been researched with clinical and non-clinical populations, and will be described. Historically, the unitary and dual/dyadic views came about the same time period, followed by the more recent multidimensional views.

Hamachek's 1978 article is often-cited as a theoretical stepping stone for perfectionism research. Based on a view that perfectionism is a dual construct, the main tenet of his theory is that perfectionism is not just a description of behaviors alone, but how the person actually *thinks* internally about the behaviors that makes a perfectionist. Therefore based on his definitions and theories about the cognitive influence on behavior, someone is either a normal or a neurotic perfectionist. Hamacheck (1978) defines normal perfectionists as:

“those who derive a very real sense of pleasure from the labors of a painstaking effort and who feel free to be less precise as the situation permits. People like this want and need approval as much as anyone else. They interpret it as an additional good feeling on top of their own and use it as encouragement to continue on and improve their work” (p. 27).

While neurotic perfectionists are:

“the sort of people whose efforts – even their best ones – never seem quite good enough, at least in their own eyes. It always seems to these persons that they could – and should – do better....They are unable to feel satisfaction because in



their own eyes they never seem to do things good enough to warrant this feeling.”  
(p. 27).

Hamacheck (1978) continued to provide examples of the distinctions between these two types of perfectionism, such as commenting that normal perfectionists are able to consider their own realistic strengths and weaknesses and establish performance expectations or boundaries for themselves. He stated that the neurotic perfectionist is not able to do this, instead concentrating on how to avoid failing, sometimes not even attempting to begin a task, and then suffering stress. These differentiations laid the groundwork for today's theories and constructs of adaptive and maladaptive perfectionism. Hamachek offers his view on the development and antecedents of perfectionism stating that an environment of non-approval or inconsistent approval breeds neurotic perfectionists, as can conditional positive approval, whereas an environment of positive modeling combined with not linking self-worth to all performances can lead to more normal perfectionism. The non-approval or conditional approval can lead a child to grow up thinking that they are never doing good enough work, they can always do better, and that their self-worth is wrapped around their inadequate performances.

Hamachek (1978) described what he considered to be six behaviors of perfectionism, behaviors which have been included in perfectionism studies since his initial work. These six behaviors are: (a) depression, (b) a nagging “I should” feeling, (c) shame and guilt feelings, (d) face-saving behavior, (e) shyness and procrastination, and (f) self-deprecation. Normal and neurotic perfectionists differ in magnitude and display of these six behaviors, typically shown as ends of six continuums. Using each behavior as a

separate continuum, neurotic perfectionists would show the highest levels of those behaviors (Hamacheck, 1978). Again, though Hamacheck liked to consider the thoughts of the individual, he also sought to diagnose and define perfectionism based on these behaviors, similar to other researchers of the time. One unique aspect of Hamacheck's work for that time period is that though he categorized perfectionism as normal or neurotic, he based the behaviors on more outcome-based measures, and not antecedents of perfectionism, which was more common.

Similarly, in early perfectionism research, Pacht (1984) differentiated between two perfectionism constructs, normal and neurotic. Pacht (1984) seemed to believe that striving to achieve perfection, or perfectionism itself, was the impetus for many psychological problems, because perfection didn't really exist. Pacht (1984) viewed perfectionism as "debilitating", and reflected "an unhealthy motive" (p. 386). Pacht's commentary on perfectionism reflected the sentiments of Hamachek (1978) by examining normal and neurotic perfectionists; however, Pacht did not completely agree that there are normal perfectionists. He preferred to use the term "normal perfectionists" only in regards to the normal end of the continuum of perfectionism with his clients, and still regarded perfectionism as a type of psychopathology. This is because Pacht usually worked with a clinical population. He viewed them as being in a "no-win" situation, in that their goals are so high they cannot be reached. "They are constantly frustrated by their need to achieve and their failure to do so... Even when perfectionists do something successfully, they are seldom able to savor the fruits of their accomplishments." (Pacht, 1984, p. 387). The conundrum Pacht described is that perfectionists are not satisfied with their performance—if they perform perfectly, it was an expected performance or

achievement, however if the desired end does not meet to their 100% standards, then it is a failure. Pacht resolved his reflections on perfectionism by stating that “The message must be clear – we seek acceptance of “imperfection” as a goal rather than the achievement of perfection.” Also, “It seems clear to me that if we must have a concept like perfection, then the only way a person can be perfect is to be imperfect.” (p. 389). Pacht did not discuss the type of perfectionists that others later in the research stream would term “adaptive perfectionists”; rather, he discussed the more seemingly *maladaptive* definition.

More recently, Ashby and Kottman (1996) have used normal and neurotic as distinctions of types of perfectionism. However, they believe that inferiority is a key differentiator between the two forms of perfectionism, such that normal perfectionists have a more manageable experience of these feelings of inferiority while striving for perfection, while neurotic perfectionists are more overwhelmed by the feelings of inferiority. In their research, they found that normal perfectionists were able to handle feelings of inferiority in a more adaptable manner than the neurotic perfectionists.

About the same time as Hamacheck’s published research, Burns was developing his view of perfectionism, not as a two-part construct or continuum, but as a single construct. In his seminal article, Burns (1980) expressed his view that perfectionists wrote themselves a personal script for self-defeat because they measured their own self-worth in terms of accomplishments. This way of thinking and drive to reach the unattainable was self-defeating. Burns agreed with Pacht’s view, that perfectionists are in an “all or nothing” situation, or a “God/scum phenomenon”, however he believed perfectionism was mainly a unitary concept. Perfectionists suffer from the ‘shoulds’, for

example, ‘they should be better’, ‘they should have worked harder’, etc. (Burns, 1980; Pacht, 1984). Burns believed that the origins of perfectionism were rooted in parent-child relationships, contributing to the self-defeating cognitions and defined perfectionists as “...those whose standards are high beyond reach or reason, people who strain compulsively and unremittingly toward impossible goals and who measure their own worth entirely in terms of productivity and accomplishment. For those people, the drive to excel can only be self-defeating” (Burns, 1980, p. 34).

As research continued beyond the 1980s, more current theorists of perfectionism are divided as to whether perfectionism is a construct defined by the descriptive dimensions of the measures, or whether it is better defined by considering the origins of perfectionism. The research is most focused on whether perfectionism is a dual construct or a multidimensional construct. However, more recent theorists view the construct based on how it can be defined in terms of outcomes, for example, adaptive and maladaptive perfectionism, or in the manifestations of perfectionism in how it is outwardly expressed. Each major theory is described herein.

#### *Current Definitions and Dimensions of Perfectionism*

While some definitions of perfectionism focus on parental behaviors and developmental origins, other researchers define perfectionism based on outwardly expressed behaviors and current internal thoughts about the qualities of perfectionism, and others describe the construct in terms of descriptive dimensions based upon measures or definitions. Much of this research overlaps, as evidenced in the studies that follow. Where a definition is also intertwined with a measure, the measure and definition will

both be described, as much of the research has focused on teasing out the measures, and therefore operationalizing of the definition of perfectionism.

Before the discussion continues regarding the extended research on perfectionism, it is necessary to understand the definitions and dimensions of perfectionism. The general distinctions between the definitions are discussed in the following section. Though the definitions are confounded by the measures used to determine the factors, it is possible to divide the research into three general definitions; (a) perfectionism as a unitary construct, (b) as a two-dimension construct, and (c) as a multidimensional construct. The definitions also can be categorized by whether they are based on the antecedents or origins of perfectionism, whether they are defining the outcomes of perfectionism, or a combination of both.

As described in the general historical section, perfectionism as a unitary construct is most related to the work of Burns (1980). This unitary concept attributed to Burns is measured based on a self-assessment where the origins of perfectionism are rooted in parent-child relationships, contributing to the self-defeating cognitions. Dunkley and Blankstein (2000) also presented a unitary view of perfectionism as self-critical perfectionism. Self-critical perfectionism is a particularly maladaptive form of perfectionism based on its characteristics such as being overly critical, demanding of oneself, and striving for high achievement. Dunkley, Zuroff and Blankstein (2003) determined that the unitary concept was akin to only the maladaptive part of a two-dimension model which will be described later. When perfectionism is considered a unitary concept, it is typically done using a scale focused on the respondent's way of

thinking, attitudes, and beliefs about perseverance, accomplishments, failure, and expectations and results in an overall perfectionism score.

Perfectionism as a two-dimension construct typically divides perfectionism into positive and negative perfectionism, adaptive and maladaptive perfectionism, or normal and neurotic perfectionism. For the purposes of this research, these concepts can be viewed as similar, such that positive, normal, or adaptive are all similar sides to one dimension, and neurotic, negative or maladaptive are viewed as the other dimension. Positive or adaptive perfectionism is based upon examining behavioral outcomes and consequences of one's own perfectionistic tendencies. The definition and theory that Terry-Short, Owens, Slade, and Dewey (1995) based their research on is that consequences for actions are central to the perfectionist. Therefore, positive outcomes of someone's perfectionism are positive reinforcers of perfectionism, which are also viewed as more normal or healthy. Those then are different from when someone attempts to behave by avoiding negative reinforcers of perfectionism.

This theory is in part based on Hamachek's (1978) work stating that normal perfectionists are focused on their strengths and doing activities the right way, whereas neurotic perfectionists are focused on a fear of failure. Terry-Short et al.'s conceptualization of perfectionism strikes a resemblance to Higgins' (2000, 2002) research on promotion and prevention-focus as theories of motivation which state that promotion-focused individuals are motivated by moving towards a goal, and prevention-focused individuals are motivated by trying to avoid failure- a more unhealthy and negative, maladaptive side to perfectionism. A well-used two dimension definition of adaptive and maladaptive perfectionism is provided by Enns, Cox, and Clara (2002):

“Adaptive perfectionism involves the setting of high goals and personal standards and striving for the rewards associated with achievement while retaining the ability to be satisfied with one’s performance. In contrast, maladaptive perfectionism is characterized by the setting of inflexible and/or unattainably high standards, the inability to take pleasure in one’s performance and uncertainty or anxiety about one’s capabilities.” (Enns et al., 2002, p. 922).

As a multidimensional construct, perfectionism is typically defined by its antecedents (Hewitt and Flett, 1991a, 1991b), or by a mix of antecedents and outcomes of perfectionism (Frost, Marten, Lahart, & Rosenblate, 1990). When perfectionism is defined as a multidimensional construct based on its antecedents, the definitions and research tend to focus on different levels of each of three ways perfectionism is motivating the individual. So they are not antecedents in the sense of childhood causes, rather they are current motivations for the perfectionistic behaviors. In this line of research, the perfectionist holds him/herself to excessively high standards of excellence and seeks to avoid failure and attain a personal level of perfection. The perfectionist also expects that level of excellence from the others in his/her life, and perceives the need to attain those standards prescribed by others and his/her social environment. Self-oriented perfectionism (SOP) is an angle in which perfectionism is initialized by the person themselves, requiring him/herself to be perfect. Other-oriented perfectionism (OOP) comes from setting unrealistic expectations of perfectionism of others as well as giving harsh criticism and evaluations of others that are significant in their life. Socially prescribed perfectionism (SPP) is the participant/patient’s interpretation that perfection is demanded by others who are significant in the individual’s life. These three facets are

often measured together to determine which of the three is the strongest driving force or motivator for the perfectionist.

The other main multidimensional approach defines perfectionism as a mix of antecedents with outcomes, and usually combines these in a six-part model of perfectionism. The six dimension model typically identifies both antecedents and outcomes. The antecedent aspects of this definition are parental expectations and parental criticism, while the other four aspects are more related to outcomes or behavioral aspects: doubts about actions, concern over mistakes, standards, and organization (Frost et al., 1990). Therefore, a perfectionist is someone who exhibits unusually strong concerns about personal mistakes, who perceives unusually high parental expectations for flawless behavior/performance, who consistently doubts his/her own actions, who holds him/herself to unusually high standards, and is extremely organized. Each of these dimensions in the extreme defines the perfectionist.

Unlike the definition which focuses on six dimensions (Frost et al., 1990), the three-part multidimensional definition (Hewitt & Flett, 1991a, 1991b) is based on two objects to which the perfectionism is directed- to others, or self; and one area to where the perfectionism is attributed - the social environment. The six-part multidimensional definition of perfectionism is very self-oriented overall, while the three-part definition is a more 360-degree view of the construct, involving the self, significant others, and the social environment.

Each of the previously described definitions has been measured by different scales, and with different populations- from clinically diagnosed participants to non-clinical, and from children to adolescents, college students, and adults.



### *Summary of Perfectionism Measures for the Three General Definitions*

Depending on the definition that is used in the research, perfectionism measures are often used together, and sometimes items are selected from multiple measures to construct a new customized measure for a specific research question relating to perfectionism. Although several other measures of perfectionism have been used in previous research, they are not discussed in detail here due to their heavy reliance on specific outcomes of clinical perfectionism, such as eating disorders (i.e., the Eating Disorders Inventory, and the SCANS: Setting Conditions for Anorexia Nervosa Scale). Each of the measures discussed were designed and/or subsequently tested on both clinical and normal populations (typically university students or community members), and current research presented on each is based on adult samples. The definitions and measures included here are therefore the most appropriate for the current study, and the most frequently used measures in the literature. A summary regarding each measure discussed here with more detail is provided in Table 1. Because of how the measures map to the definitions, it is easy to group them into four general areas: unitary, two-dimensional, multidimensional, and hybrid measures. Each grouping is described below in chronological order of use in the research. Once these general groupings are understood, the perfectionism research relating to the current study is easier to conceptualize.

Table 1

*Comparisons of the Measures of Perfectionism*

Measure	The Perfectionism Scale	Multidimensional Perfectionism Scale	Multidimensional Perfectionism Scale	Almost Perfect Scale-Revised	The Adaptive/Maladaptive Perfectionism Scale	Positive and Negative Perfectionism Scale
Authors	Burns (1980)	Hewitt and Flett (1991b; Commercial Measure: Multi-Health Systems)	Frost et al. (1990)	Slaney, Rice, Mobley, Trippi, & Ashby (2001)	Rice and Preusser (2002)	Terry-Short et al. (1995)
Perfectionism Concept	Perfection is a script for self-defeat based on measuring personal self-worth in terms of accomplishments	Three proposed orientations or pathways that perfectionism could impact the individual: through others, social environments, or via the self. In Mitchelson and Burns (1998), 'at home' or 'at work' added to end of each item to differentiate environment.	Based on six dimensions defined by traits or behaviors perfectionists exhibit; excessive concern over mistakes, high personal standards, perception of high parental expectations and criticism, doubting the quality of own actions, and a preference for order and organization.	Perfectionism as a hybrid model; based on three facets to determine adaptive or maladaptive perfectionism.	Adaptive and Maladaptive perfectionism differentiation differs by the motive of the individual (self-interest versus social interest)	Perfectionism is a normal construct and is based on negative or positive reinforcement; items taken from Burns, Hewitt and Flett and other clinical measures.
Dimensions or Factors (items and reliability)	None; total score indicates degree of perfectionism	Self-Oriented (15 items, .88, .89, .86) Other-oriented (15 items, .74, .79, .82) Socially Prescribed (15 items, .81, .86,	Concern over Mistakes, (9 items, .88, .90) Personal Standards (7 items, .83, .87) Parental	High Standards (7 items; .85) Order (4 items; .86) Discrepancy (12 items, .92)	Sensitivity to Mistakes (9 items, .91, .90) Contingent Self-Esteem (8 items, .86, .73)	Positive Perfectionism (18 items; .87) Negative Perfectionism (22 items; .89)

Measure	The Perfectionism Scale	Multidimensional Perfectionism Scale	Multidimensional Perfectionism Scale	Almost Perfect Scale-Revised	The Adaptive/Maladaptive Perfectionism Scale	Positive and Negative Perfectionism Scale
		.87)	Expectations (5 items, .84, .57)  Parental Criticism, (4 items, .84, .91)  Doubts about Actions (4 items, .77, .72)  Organization (6 items, .93, .95)		Compulsiveness (6 items, .87, .75)  Need for Admiration (4 items, .85, .81)	
Scoring	Rated on 5-pt scale of agreement from +2 to -2. Higher score indicates higher degree of perfectionism	Rated on 7-pt scale of strongly agree to strongly disagree.	Rated on a 5-pt scale of Strongly Agree to Strongly Disagree.	Rated on a 7-pt scale of strongly agree to strongly disagree.  Standards scale determines the categorization of perfectionism versus non-perfectionist; then the Discrepancy scale determines the maladaptive versus adaptive perfectionism classification. A person is determined to be maladaptive if there is a discrepancy between what their personal standards are and what they are achieving	Rated on 4-pt scale (1 = really unlike me, 2 = somewhat unlike me, 3 = somewhat like me, 4 = really like me).  Higher scores on each dimension indicate maladaptive perfectionism.	Rated on 5-pt scale from Strongly Disagree to Strongly Agree
Significant Relationships to other Measures	Correlation to Frost MPS overall of .86	Tested against Burns measure, sig correlations are .57 SOP, .40 OOP, .39 SPP in normal	Overall correlation of .86 with Burns. Six Sub scales correlated with the Burns measure:			Negative perfectionism correlated .50 with Hewitt and Flett MPS subscale SPP

Measure	The Perfectionism Scale	Multidimensional Perfectionism Scale	Multidimensional Perfectionism Scale	Almost Perfect Scale-Revised	The Adaptive/Maladaptive Perfectionism Scale	Positive and Negative Perfectionism Scale
		sample and .62 SOP, .42 OOP, .69 SPP in clinical sample.	Concern over Mistakes (.87), Personal Standards (.53), Parental Expectations (.44), Parental Criticism (.42), Doubts about Actions (.47), Organization (ns).			at work, -.30 with SPP at home, and .25 with OOP at home (Mitchelson & Burns, 1998)
Item and Reliability Totals	10 items (.82)	45 items; no overall alpha (N/A); test-retest alphas from .88 (SOP), .85 (OOP), .75 (SPP) in normal sample and .69 (SOP), .66 (OOP), .60 (SPP) in a clinical sample.	35 items, .90-.91 overall	23 items	27 items	40 items

*Unitary measures.* Typically, a unitary measure of perfectionism is assessed using the previously described Burns (1980) Perfectionism Scale, or more recently by using an aggregated ‘total perfectionism’ score from the Hewitt and Flett multidimensional perfectionism scale, which is described in the next section.

*Multidimensional measures.* Historically, the multidimensional measures have followed unitary measures in chronological development, but have come before two-dimensional and hybrid measures. The definitions based on the Multidimensional Perfectionism Scale (MPS) measures typically revolve around the concepts directly defined in the two measures by their factors. In the Frost MPS model the six factors form the definition of perfectionism, described earlier: Concern over Mistakes, Parental Expectations, Parental Criticism, Doubts about Actions, Personal Standards, and Organization.

Similarly, in the other multidimensional definition by Hewitt and Flett (Hewitt and Flett, 1991a, 1991b; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991; now a commercial measure only available from Multi-Health Systems), perfectionism is defined by the three factors: self-oriented, other-oriented, and socially prescribed perfectionism, described earlier. In their model, the three factors are measured by three sub-scales: Self-oriented perfectionism (SOP), Other-oriented perfectionism (OOP) and Socially Prescribed perfectionism (SPP). These subscales include attitudinal, motivational, and behavioral items. This three-part measure was developed and tested with normal (Hewitt and Flett, 1991a, 1991b) and clinical (Hewitt et al., 1991) populations.

*Two-dimension measures.* The more applied, yet simplified two-part measures of perfectionism which map to normal/adaptive/positive come from research by Terry-Short

et al. (1995), who chose to define perfectionism in terms of positive and negative perfectionism. This grouping of measures came after the multidimensional measures as researchers saw the need for a more parsimonious and succinct way to define and assess the construct, but yet still identified different types of perfectionism. Their research is based upon examining behavioral outcomes and consequences of one's own perfectionistic tendencies, in a two-factor model of positive or negative outcomes, called The Positive and Negative Perfectionism Scale (PNP; Terry-Short et al., 1995). This measure aligns to the previous description focusing on the outcomes and consequences of the perfectionist's actions. This theory is in part based on Hamachek's (1978) work stating that normal perfectionists are focused on their strengths and doing activities the right way, whereas neurotic perfectionists are focused on a fear of failure.

Terry-Short et al.'s research was meant to devise a measure which could distinguish between positive and negative aspects of perfectionism, and demonstrate the differences using varied samples of women including a sample of women with eating disorders, clinically depressed women, and athletes. Their hypotheses were that participants with eating disorders would have high scores on positive and negative perfectionism, clinically depressed participants would have high scores on negative perfectionism and low scores on positive perfectionism, and athletes would have high scores on positive perfectionism and low scores on negative perfectionism. The normal, or control group was expected to have average scores on positive and negative perfectionism. Therefore, thinking about these groups visually in a four-quadrant graph with positive and negative perfectionism on the axes, each group was expected to score in a different quadrant.

The results supported the hypotheses: the eating disorder group scored higher than the control group on positive perfectionism, and the athletes showed the highest positive perfectionism scores, over the control group, depressed group, and eating disorder group. For negative perfectionism, the eating disorder group scored the highest, followed by the depressed group, control group, and the athletes scored lowest on negative perfectionism. Terry-Short et al. also used this study as a way to examine their measure's psychometric properties. A principal components analysis resulted in two factors supporting the measurement model proposed by Terry-Short et al. This research is interesting overall because participants could obtain high positive and negative perfectionism scores; therefore the factors were not different ends of one continuum, as most positive/negative construct distinctions with perfectionism have been.

The Almost Perfect Scale (APS) was developed by Slaney and others (Slaney, Ashby, & Trippi, 1995; Slaney, Rice, Mobley, Trippi, & Ashby, 2001). The items in the Almost Perfect Scale are divided into three main sub-scales: Standards, Order, and Discrepancy. The Standards sub-scale is based on the respondent setting high standards and expecting the best from him/herself. Order is based on preferences for organization and neatness, and Discrepancy is based on feeling like you are never doing enough, not feeling good about your accomplishments, and there is a known discrepancy in what the person has actually accomplished and what they feel they have accomplished. These sub-scales are then used to divide people into three categories: adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. The Standards sub-scale determines the categorization of perfectionism versus non-perfectionist and the Discrepancy sub-scale is then used to determine the maladaptive versus adaptive perfectionism

classification. A person is determined to be maladaptive if there is a high level of discrepancy between what their personal standards are and what they are achieving, which is theorized to be causing them a higher stress level.

*Hybrid measures.* As previously suggested, another two-dimension definition of perfectionism very similar to positive and negative perfectionism, is adaptive and maladaptive perfectionism. This range of perfectionism is measured sometimes with a hybrid measurement model of several scales by different researchers, and sometimes with one measure as described in the two-dimension section. The hybrid measures are the most recent of the perfectionism measures.

There are two specific measures which are good examples of hybrid measures, The Adaptive/Maladaptive Perfectionism Scale, and a self-criticism perfectionism scale. Developed for use in children, the Adaptive/Maladaptive Perfectionism Scale (AMPS; Rice and Preusser, 2002) was constructed using items from most of the other measures like the MPS, and its initial testing was completed with children in the fourth and fifth grades. This measure yields four dimensions: Sensitivity to Mistakes, Contingent Self-Esteem, Compulsiveness, and Need for Admiration. The premise of the AMPS is that the differentiation between adaptive and maladaptive perfectionism occurs as a result of the motive of the individual such that self-interest perfectionistic behaviors are more adaptable than those driven from social interests of the environment or others. The theoretical background to the measure stems from Hamacheck's normal/healthy and neurotic factors of perfectionism, and is based on similar ideas of perfectionists preferring order, being overly concerned about making mistakes, the impressions of others, and the need to succeed. The other hybrid measure is based on a unitary view of



perfectionism. In measuring the unitary definition of perfectionism from Dunkley and Blankstein (2000), self-critical perfectionism is measured from a hybrid model, in which subscales are borrowed from two multidimensional measures and combined: Concern over Mistakes, Doubts about Actions, and Socially Prescribed Perfectionism.

Suddarth and Slaney (2001) researched the dimensions of perfectionism in college students using three of the measures previously described and included in Table 1: the Almost Perfect Scale, Hewitt and Flett's MPS, and Frost's MPS. The authors conducted a principal components analysis of the items from all twelve subscales of all three measures, and then used the results to predict locus of control, anxiety, and psychopathology. They found that three factors explained 67.9% of the total variance. The first factor was labeled Maladaptive and included the following subscales from the three measures: Concern over Mistakes, Parental Expectations, Parental Criticism, Doubts about Actions (all from Frost's MPS); Socially Prescribed (SPP, Hewitt and Flett's MPS); and the Discrepancy subscale from the APS-R. The second factor was labeled Adaptive and included the Personal Standards subscale (Frost's MPS), the Self-Oriented and Other-Oriented subscales (SOP and OOP from Hewitt and Flett's MPS), and the High Standards subscale from the APS-R. The last factor was labeled Order/Organization and included the Order subscale from the APS-R and the Organization subscale from Frost's MPS. When these three new combination factors were used to predict locus of control, anxiety, and psychopathology, only maladaptive and adaptive were significant in the model. This research shows the importance of the discrepancy (similar to a cognitive dissonance) concept in determining maladaptive perfectionists, and shows support for retaining order/organization as a clear component of

perfectionism. Their research supports the hybrid combinations of the subscales within each of the new factors.

Suddarth and Slaney (2001) used the hybrid measurement approach by combining subscales of the three most widely used perfectionism measures. This approach is distinctive because it draws upon all the items of the three measures, and then uses the results of the research to define the overarching dimensions of perfectionism psychometrically. Suddarth and Slaney's perspective was that the subscales of the original measures were based on possible causes or results of perfectionism, and not definitions or descriptions of perfectionism. By using items from multiple measures Suddarth and Slaney (2001) were able to clarify the factors of perfectionism psychometrically from three previously developed measures, and explore their rationale about the make-up of the dimensions, in the end yielding a hybrid measure.

Rice, Ashby, and Slaney (1998) also found a two-dimension model of adaptive and maladaptive perfectionism when examining the Frost MPS measure and the Almost Perfect Scale together in their research. In this study, they used confirmatory factor analysis, relying on the previous research of Suddarth and Slaney, and Frost et al. to distinguish the higher order factors of adaptive and maladaptive perfectionism based on the subscales from Frost's MPS and Slaney et al.'s Almost Perfect Scale (APS). Using those two measures, the adaptive perfectionism construct was made of Standards and Order, and Procrastination (APS), Organization and Personal Standards (MPS), while the maladaptive construct was made of Concern over Mistakes, Parental Criticism, Parental Expectations, Doubts about Actions (all from MPS), with the addition of Anxiety and Difficulty in Relationships (APS). Adaptive perfectionists had low levels of

procrastination, and high levels of personal standards, organization and order, while maladaptive perfectionists had high concerns about their mistakes and doubted their own actions, perceived high levels of parental criticism and expectations, and experienced anxiety and difficulties with their relationships.

Historically, the majority of the perfectionism research has been focused on comparing each of these definitions and types of measures with different populations, and in comparing the psychometric properties of the measures, or the usages of the measures. Table 1 shows how the most frequently used measures relate to each other, descriptively, and psychometrically. The current proposal will focus on perfectionism as an adaptive or maladaptive construct, which has been assessed in normal and clinical populations, and by consolidating multidimensional scales for ease of measurement.

#### *Antecedents of Perfectionism*

Though some of the definitions and measures explicitly include indicators of possible antecedents within the questionnaires themselves, others do not. Though the research strongly suggests that the antecedents exist, it may not be necessary to measure them each time. Theorists who defined perfectionism based upon its origins typically examined the developmental factors they believed influenced the trait or behaviors typical of perfectionism (Flett, Hewitt, Oliver, & Macdonald, 2002). These theories were based upon studying parent-child relationships, the social models of families, the family environment, and child-rearing practices. Several researchers examined these relationships by asking current adults to think retrospectively about their childhood relationships with their parents, and their parents' parenting styles or behaviors (Flett et al., 2002).

Though there are various theoretical models describing possible origins of perfectionism stemming from parental behavior, many of the models are related to social learning theory. In a *social learning model*, the child essentially ‘learns’ perfectionism by observing and imitating the perfectionistic behaviors of their parents (Flett et al., 2002). Children may idolize their parents, believe they are ‘perfect’ and then model the evaluative standards their parents have. In the *social reaction model*, the child has been exposed to a harsh environment (such as abuse, psychological mistreatment, or love withdrawal) and then responds to the environment with perfectionistic behaviors, perhaps as a way to cope with his/her harsh world. The child may believe that if he/she is ‘perfect’ (which is something the child can conceivably control), then the hurt (from emotional or physical abuse, etc.) will stop (Flett et al., 2002). Although these two models overlap somewhat, the case histories Flett et al. (2002) presented show the differences. In the social reaction model, the perfectionists were more victim-like, such as abused women; whereas the social learning model examples and research were based on more ‘normal’ households and environments and traditional reinforcement and learning patterns. These theoretical models are the cornerstone for the beginnings of research in the origins of perfectionism.

The ideas from these social learning models are inherent in the clinical research conducted on perfectionism, and thus are even sprinkled into the current measures and definitions due to their evolution from originally clinical measures. There is a distinction between the social reactions model and the original perfectionism literature in that the social reactions model is definitely a clinical model not developed specifically for perfectionism, but perfectionism literature has grown from those types of models. For

the current study, it is germane to understand that as the measures used today have roots from the social learning model and other clinical psychology models, but the current research is being conducted in the workplace where these concepts are not usually at the forefront.

Though much of the work on the developmental origins of perfectionism is based on case studies or is theoretical, a select few have conducted empirical research. One of these studies is based on examining associations between self-esteem and different types of perfectionism, and the characteristics of the family environment (parent-child relationships specifically). Rice, Ashby, and Preusser (1996) studied normal (adaptive) and neurotic (maladaptive) perfectionistic adults and found that the two groups differed significantly on their ratings of two subscales of a measure of perfectionism, Parental Criticism and Parental Expectations. Neurotic perfectionists indicated they experienced greater expectations and more criticism than the normal perfectionists. Additional analyses showed relationships between the reported parental behaviors and the self-esteem of the respondents. In a related study, Enns et al. (2002) concluded that neurotic (maladaptive) perfectionists reported more incidents of judgmental and demanding behavior by their parents. Similarly, Rice et al. (1996) showed that adaptive perfectionistic respondents (normal) perceived their parents as less demanding and critical.

Enns et al. (2002) discussed many theoretical assumptions regarding perfectionism and parent-child relationships, however concluded that there were limited empirical studies to support these theories. They therefore conducted their own studies on the developmental origins of perfectionism. Enns et al. used the differentiation of

adaptive versus maladaptive perfectionism. They showed that perfectionism was related to proneness to depression in adults and to childhood experiences with parents. Enns et al. suggested that perfectionism of parents influenced a child well into adulthood. The causal model they developed suggested that certain parenting behaviors such as being harsh or perfectionistic led to maladaptive perfectionism in the participant (as a child). That child was then more prone to being depressed later as an adult. The model also suggested that perfectionistic parenting could lead to adaptive perfectionism in the participants, which in turn was related to lower likelihood of depression. The researchers showed that adaptive/maladaptive perfectionism was a mediator between the parenting behaviors experienced by the participants (earlier when they were children) and their current proneness to depression as adults. Interestingly, Enns et al. found no clear differences in parenting based on mothering or fathering or differential effects based on gender. This lack of gender differences is also found in other perfectionism studies.

Using the definitions of adaptive perfectionism and maladaptive perfectionism from Enns et al. (2002) and applying them to Hamacheck's (1978) theoretical paper, it is possible to reach a broader generalization about the origins of perfectionism. Combining these two points of view, one could conclude that it is likely that maladaptive perfectionism is developed in children when their parents hold high expectations for them, and are not satisfied with what the child accomplishes. Hamacheck's work supports the developmental theory in line with a social expectations model. The social expectations model suggests that when children do not meet the perfectionistic expectations of their parents they suffer feelings of hopelessness. However, when they do reach the expectations of their parents, they experience higher feelings of self-worth. This

is a model of contingent self-worth (Flett et al., 2002). Therefore, this theory would suggest that adaptive perfectionism is developed in children when their parents have high standards which are attainable.

The results of Rice et al. (1996) and Enns et al. (2002) lend credence to the many theoretical and clinical case study-based assertions that perfectionism has developmental and family origins. The studies regarding the origins of perfectionism all come to one common conclusion: perfectionism is influenced by parenting behaviors, such that parents who set high standards and expectations or who have stern, harsh, critical, or controlling styles will be more prone to have children who are perfectionists, and likely more maladaptive than adaptive. Though this aspect of perfectionism is interesting from a perspective of understanding possible origins, it does not address how perfectionism is defined outside of parental behaviors, and therefore it has limited utility in understanding the effects of perfectionism in the workplace.

#### *Perfectionism and Other Individual Difference Variables*

It is important to also understand how perfectionism is related to other individual difference variables. Though the main perfectionism distinctions appear to be between positive/adaptive and negative/maladaptive, or multidimensional distinctions, it is also important to consider how perfectionism is different from other related psychological constructs. Perfectionism has been researched in relation to the 'Big Five' factors of personality, especially Conscientiousness and Neuroticism, as well as need for achievement/achievement motivation, regulatory focus theory (prevention versus promotion focused tendencies and behaviors), and workaholism. Because of the extensive research with perfectionism and many individual difference variables in both clinical and

non-clinical samples, the research that is highlighted here is primarily from non-clinical samples, because it will be most related to the sample of this proposed study.

*Perfectionism and workaholism.* Though it is common to think these constructs are the same, the research-based relationships between perfectionism and workaholism have shown that the two constructs are different. Whereas perfectionism defines behaviors and cognitions about achieving a desired perfect end-state to a work product or to everyday tasks, workaholism is defined by the behaviors associated with an addiction to the job or work specifically. Snir and Harpaz (2004) used the widely-used definition of workaholism: “the individual’s steady and considerable allocation of time to work-related activities and thoughts, which does not derive from external necessities.” (p. 520).

According to this definition, workaholism could be related to perfectionism. However, according to Snir and Harpaz workaholism is more concerned with the addiction to work and time spent at work rather than the attitude of fear of failure or need to produce perfect work products. Workaholics live to serve their addiction, and are willing to sacrifice other aspects of their lives to keep working, even when they do not have to (Greenwald, 2003). Workaholics may not be focused on the end-product being free from mistakes, rather they work to feed their desire to work. In addition, perfectionism may be manifested in different domains of one’s life, including but not limited to work. Benabou and Tirole (2004) described workaholism as it related to an individual’s need to feel in control and make personal rules, which can be taken to the extreme and then manifest itself as workaholism. Through that description of the leading indicators of workaholism, one can see how perfectionism and workaholism could be similar constructs.



Gayle Porter is a published workaholism researcher and has been interviewed about her own workaholism. In a recent popular-press article interview, Gayle Porter explained that she believes technological advances have enabled workaholics to feed their addiction to work (Greenwald, 2003). Now that we have laptop and notebook computers, pocket-size computers, cell phones, and wireless internet connections, society has created a place where workaholism is acceptable. She also stated that workaholics have other behaviors such as a high need for control, hoarding information (thus making them feel irreplaceable), and are unable to delegate work. Those behaviors foster their extreme work habits because they have not used the tools available to them to evenly distribute work such as delegating work or transferring knowledge to others so that they can work less. Some workaholics use the excuse that if they slow down they will lose their jobs, however the traits of a workaholic suggest that even when given opportunities or tools to work less or spend more time in their personal lives (without negative impact on their livelihood) workaholics would still choose to work (Greenwald, 2003).

Empirical research linking the two constructs of workaholism and perfectionism is recent and limited. Some researchers see perfectionism as a component of workaholism (Porter, 2001) stating that workaholism can be broken into “joy in work and perfectionism” or a three facet model of compulsive-dependent, perfectionist, and achievement-oriented types (Scott et al., 1997). Spence and Robbins (1992) developed a measure of workaholism which is now widely-used, and examined its relationships to other constructs, one of which was perfectionism. Their definition of a workaholic is “a person who exhibits three properties: In comparison to others, the workaholic is highly work involved, feels compelled or driven to work because of inner pressures and is low in

enjoyment of work.” (p. 162). In their research, workaholics had significantly higher average mean scores than ‘work enthusiasts’ on several constructs, including measures of perfectionism, nondelegation of work, and job stress, and had higher health complaints. A ‘work enthusiast’ is someone who is also highly involved, but also has high enjoyment and is not driven. However, workaholics and work enthusiasts did not differ significantly on job involvement and time commitment.

Scott et al. (1997) explored workaholism and its relationships with behavior patterns based on their model of three types: compulsive-dependent, perfectionist, and achievement-oriented workaholism. Their theory is based on a few assumptions about the components of workaholism. First, workaholism contains varying amounts of discretionary time spent on work activities. Second, workaholism contains varying degrees and amounts of how often and how much thinking about work an individual does when not at work, and finally, varying amounts of how a person works beyond organizational or economic requirements. From those assumptions, they proposed three types of workaholic behavior patterns.

First, the compulsive-dependent workaholic has a compulsion to work, and has a dependency to work. This is shown in the behaviors of compulsive-dependent workaholics when they work longer than they intended, obsess about work but think they cannot control it, and experience forms of withdrawal when they are not able to work. Second, the achievement-oriented workaholic had a strong career identity, desire to move up in the organization, strive to accomplish moderately difficult work, can delay satisfaction to accomplish a goal, spend a lot of discretionary time at work, and work beyond what is economically required for them.

The third concept of the perfectionist workaholic type is the most related to the current research study. This type of workaholic has a desire to be in control, is rigid and inflexible, and has a preoccupation with details, rules, and lists. They pride themselves on their productivity over their personal lives. This is another example of how perfectionism is wrapped into workaholism theories, but yet does not fit the dimensions and descriptions of perfectionism from the primary perfectionism research already published. This definition is missing the multidimensional components of the previous perfectionism research including fear of failure, expectations of success, and concerns about performance. Scott et al. (1997) concluded that workaholism can be good or bad; similar to perfectionism being adaptive or maladaptive. However, their article is a theoretical exploration of differing consequences of each type of workaholic; specifically that perfectionist workaholics would experience greater stress, psychological problems (depression), more hostile interpersonal relationships, lower creativity, low job satisfaction and be less effective performers than non-workaholics. Although Scott et al. hypothesized these relationships, they were left untested.

Porter (2001) suggested that 'joy in work' and 'perfectionism' were two characteristics of workaholism, and examined how each contributed to the stress of co-workers. In her review, Porter cited previous research which indicates that workaholism is an addiction to work, and even manifests itself in the workaholic who manipulates the work environment into supporting his/her addiction. The one common thread that Porter finds in the workaholism research is that there is a dichotomy of the construct; those who find joy in their work, and those who are driven to achieve perfectionism. Therefore, in her research, joy is the favorable end of a continuum, and perfectionists are at the

unfavorable end of a continuum. Under these distinctions, a workaholic who finds joy in work is less likely to be in a destructive pattern, and in order not to cause failure, their own standards may not be set high. In an extension of this line of thinking, this could be considered a form of adaptive perfectionism. In her 2001 study, Porter examined employed participants who completed a brief self-report survey about workaholism. She examined possibilities of demographic differences in workaholism, differences in work-related perceptions (organizational demands and risk-taking attitudes), perceptions about others, and workplace interactions (i.e., possible effects on co-workers of workaholics). Perfectionism was measured using four items developed for this study, and ten items were used to measure joy in work. The three dependent variables were (a) perception of organizational demands, (b) perception of risk taking, and (c) the relationship to other employees. These were measured with short self-report scales. The participants were divided into groups based on their scores on the joy in work and perfectionism scales, such that those who scored above the median on only one measure but not both measures, were retained for analyses. Participants were divided into three groups based on predominantly higher scores from two categories: above the median in joy in work, above the median on perfectionism, and then the rest were a third unspecified group.

Perfectionistic workaholics in this study were akin to maladaptive perfectionists. There were no differences within the perfectionistic workaholics related to ethnicity or gender, providing support that perfectionism and workaholism are not correlated with these demographic variables. Perfectionists tended to perceive their organizations as not supporting risk-taking, and tended to report that the management responds more to mistakes and less to positive contributions (contrary to the “joy in work” group which

reported more positive impressions of management). Perfectionists seemed to take more pride in their personal standards than the standards of the company. When evaluating the third dependent variable of perceived effects on co-workers, there were significant results showing that perfectionists were more likely to question the value of other employees, show less trust in the efforts of others to show self-restraint when resources are limited, and lower levels of the belief of “we are all in this together” than those in the joy in work group.

These results suggest that in the two general workaholic groupings, perfectionists are viewed more unfavorably, with more negative impact and perceptions than the joy in work group. Further, considering the definitions for these groups, the joy in work group has more in common with adaptive perfectionists, than the maladaptive perfectionists; and the ‘perfectionists’ in Porter’s study have more in common with maladaptive perfectionists.

Burke (2001) examined workaholism in relation to job satisfaction. Burke’s initial theory included perfectionism as a component of workaholic job behaviors. Information about workaholic job behaviors were then used with four other broad variables also collected via self-report (i.e., demographics, work situation characteristics, workaholism antecedents, and workaholism components) to predict work outcomes such as job satisfaction, career satisfaction, career prospects, intention to quit, salary increase and promotions. The workaholism antecedents included measures of beliefs, fears, and organizational values; all previously used measures. Workaholic job behaviors included hours worked, job stress, perfectionism (eight items from Spence and Robbins’ work

involvement, driven, and joy in work), and nondelegation (also from Spence and Robbins). A total of 530 individuals working full-time participated in Burke's study.

The results of Burke's study (2001) indicated a positive significant correlations between perfectionism and job stress ( $r = .27$ ), feeling driven to work ( $r = .42$ ), nondelegation ( $r = .36$ ), hours worked ( $r = .14$ ), and career prospects ( $r = .16$ ). Therefore, 'perfectionists' had higher job stress, felt more driven, delegated work less, worked more hours, and had more career prospects. Interestingly, the perfectionism component of workaholism was not correlated with job satisfaction, career satisfaction, salary increases, intention to quit, or promotions. However, workaholism components together (including perfectionism) were the strongest predictors of job satisfaction in this research. Although this research did not use one of the multidimensional measures of perfectionism and instead used a very narrow measure, it does give some support to the proposition that perfectionism could be related to job satisfaction and other work-related variables of interest in the current study.

In summary, while workaholism may include perfectionism as one of its components, perfectionism research is geared to understanding the multidimensional construct, which includes cognitive components of the obsessive demands of achieving perfect outputs to work as well as other domains. Workaholism has been found to have perfectionism as a component (Greenwald, 2003; Porter, 2001) or a sub-type of workaholism (Scott et al., 1997). Perfectionistic workaholics also are similar to maladaptive perfectionists whereas 'joy in work' perfectionists are similar to adaptive perfectionists. Perfectionistic workaholics also had more negative perceptions of management, did not support risk taking, and questioned the value of other employees

(Porter, 2001). In Burke's (2001) study, though the perfectionism component of workaholism was not correlated with job satisfaction, career satisfaction, salary increases, intention to quit or promotions, when it was combined with other workaholism components it was a strong predictor of job satisfaction.

*Perfectionism and the Big Five Factors.* Perfectionism has also been studied in conjunction with the Big Five personality factors of Neuroticism/Stability, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The earliest found published research on the relationship between perfectionism and any of the Big Five factors was reported by Flett, Hewitt, and Dyck (1989). Flett et al. (1989) examined the relationship between the Burns Perfectionism Scale with Neuroticism/stability and introversion/extraversion using the Eysneck Personality Inventory. Though significant correlations were not found between introversion/extraversion and perfectionism, the Neuroticism factor was correlated significantly ( $r = .16$ ) with the unitary perfectionism scale, and perfectionism was used to predict Neuroticism through an interaction with life stress. The interaction showed that high perfectionism with high life stress was significant at predicting trait anxiety and to a lesser extent, state anxiety. Perfectionism also significantly predicted trait anxiety.

In a study of gifted sixth-graders, Parker (1997) wanted to determine if there were different types of perfectionism, and the relationship between perfectionism, personality variables, and self-esteem. Using the NEO-FFI for personality, Frost's MPS for perfectionism, and the Rosenberg self-esteem scale, cluster analysis revealed three groups of students: nonperfectionists, healthy (adaptive), and dysfunctional (maladaptive) perfectionists. The NEO-FFI was then used in a multiple discriminant analysis with the

three different clusters of students. Conscientiousness had the largest impact on group membership ( $r^2 = .23$ ), followed by Agreeableness ( $r^2 = .06$ ) and Neuroticism ( $r^2 = .05$ ), with a slight impact from Extraversion ( $r^2 = .03$ ) and last a small impact from Openness to Experience ( $r^2 = .01$ ). In terms of group differences, Neuroticism was highest in the maladaptive group, then the non-perfectionists and lowest in the adaptive perfectionists. These differences were significant. Extraversion was significantly higher in the adaptive perfectionist group than the other two, and the same level in the maladaptive and non-perfectionist groups. Openness was significantly higher in the maladaptive group than the non-perfectionists, but not significantly different from the adaptive group. Agreeableness was significantly higher in the adaptive group than the non-perfectionist and maladaptive groups. Finally, Conscientiousness was significantly the highest in the adaptive group, followed by the maladaptive group, and the lowest in the non-perfectionist group. Self-esteem results based on the clusters of respondents indicated that the adaptive/healthy perfectionists had the highest self-esteem, followed by nonperfectionists, with maladaptive/dysfunctional perfectionists showing the lowest self-esteem. This research points to the relationship of Conscientiousness with perfectionism, but suggest a lesser relationship between Neuroticism and perfectionism compared to the Flett et al. (1989) study. However, when looking at the finer distinctions of perfectionism, adaptive perfectionists were most likely to be Agreeable, Conscientious, and Extraverted with the lowest Neuroticism; while maladaptive perfectionists were highest in Neuroticism and Openness compared to the other two groups.

Enns et al. (2002) stated that “Further, studies examining the relationship of different perfectionism dimensions to higher order personality factors have consistently



found that “adaptive” perfectionism dimensions are strongly correlated with conscientiousness while maladaptive perfectionism dimensions are strongly correlated with neuroticism (Hill, McIntire, & Bacharach, 1997; Parker & Stumpf, 1995; Stumpf & Parker, 2000)” (p. 922). Similarly, Stumpf and Parker (2000) examined the Frost MPS in relation to several individual difference variables including the NEO-Five Factor Inventory, as well as several other personality measures.

Stumpf and Parker (2000) gathered data from a group of primarily high academic achievers. Stumpf and Parker determined from their factor analysis of the Frost MPS that two higher order factors of perfectionism existed, healthy and unhealthy perfectionism, which are also known as adaptive and maladaptive perfectionism. Correlations between these two higher order factors of perfectionism and the individual difference variables revealed that healthy/adaptive perfectionism was strongly correlated with Conscientiousness ( $r = .57$ ), and unhealthy/maladaptive perfectionism correlated with Neuroticism ( $r = .32$ ) and negatively with low self-esteem ( $r = -.49$ ). Correlations were also computed between the MPS subscales and the individual difference variables, showing a correlation of .30 between Neuroticism and Concern over Mistakes, and .42 between Doubts about Actions aligning to the concept of unhealthy perfectionism. Conscientiousness correlated .36 with Personal Standards and .54 with Organization aligning to the concept of healthy perfectionism. No other correlations were significant between the MPS and the NEO. Therefore, these results are consistent with previous research showing significant relationships between perfectionism and Conscientiousness and Neuroticism. The findings are also consistent in the roll-up of the six MPS factors to two higher order factors of adaptive and maladaptive perfectionism. Additionally, the

authors agree that perfectionism is multidimensional and that the factors are largely independent and essentially orthogonal, creating different patterns with personality constructs.

Hill, McIntire, and Bacharach (1997) conducted extensive questionnaire research using the Hewitt and Flett MPS and the Big Five Factors as measured by Costa and McCrae's NEO-PI-R. Hill et al. (1997) found a series of significant relationships using regression. Initially, the researchers wanted to determine if any of the personality factors were related to the three perfectionism subscales: self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism. Then, where a perfectionism subscale did correlate with a personality factor, additional regression analyses were added to determine the variance accounted for. Initial results indicated that Neuroticism, Agreeableness, and Conscientiousness significantly predicted perfectionism. However, in the follow-up tests, Neuroticism was a significant positive predictor of self-oriented and socially prescribed perfectionism, but not other-oriented perfectionism. Agreeableness was a negative significant predictor of both self-oriented and other-oriented perfectionism, but did not have a relationship with socially prescribed perfectionism. Conscientiousness was a significant positive predictor of self-oriented and other-oriented perfectionism, and no relationship was found with socially prescribed perfectionism. The relationships are not intuitive at first glance, but make sense after considering the definitions of each. For example, Agreeableness includes the concepts of compliance, modesty, straightforwardness, and altruism; along with is the desire to be easy-going and get along with others. The negative relationship between Agreeableness and self- and other-oriented perfectionism then makes sense considering that other-oriented

perfectionists are demanding of others and have unrealistic expectations of others. Therefore, other-oriented perfectionists would be expected to be less agreeable. In another example, self-oriented perfectionism is based on high personal standards and organization and order; but could also be indicative of being less agreeable to others because their focus is on themselves.

In summary, perfectionism has been shown to be related to different personality factors in several studies. The strongest overall positive relationships are with Neuroticism (Flett et al., 1989), and Conscientiousness (Enns et al., 2002; Hill et al., 1997; Parker, 1997) and an inverse relationship with Agreeableness (Hill et al., 1997). More specifically, Neuroticism was a significant positive predictor of self-oriented and socially prescribed perfectionism; Agreeableness was a negative significant predictor of both self-oriented and other-oriented perfectionism; and Conscientiousness was a significant positive predictor of self-oriented and other-oriented perfectionism (Hill et al., 1997). Finally, adaptive perfectionists were most likely to be Agreeable, Conscientious, and Extraverted with low on Neuroticism; while maladaptive perfectionists were high in Neuroticism and Openness (Parker, 1997).

*Perfectionism and regulatory focus.* A relatively new individual difference variable termed regulatory focus has also been of interest to researchers recently. Regulatory focus was suggested by Higgins to determine the motivations people have for behavior. Higgins (2000, 2002) (see also Freitas & Higgins, 2002; Liberman, Molden, Idson, & Higgins, 2001; Shah & Higgins, 2001) concluded that there are two ways people focus to achieve outcomes, which are self-regulated. A promotion focused person is geared toward moving toward advancement and accomplishment with an eagerness

about them, whereas a prevention focused person is geared toward vigilantly avoiding failure, ensuring safety and responsibility. The goal of people with a promotion focused regulatory system is accomplishment and to align their actual selves with their ‘ideal’ selves; while the goal of people with a prevention focused regulatory system is safety and to align their actual selves with their ‘ought’ selves.

Therefore, extending the regulatory focus theory research, it is possible that a promotion focused individual may be more akin to an adaptive perfectionist, and a prevention focused individual may be more like a maladaptive perfectionist. Adaptive perfectionists should be moving toward advancement and accomplishment in a constructive way, making them more likely to be promotion focused than prevention focused. Similarly to prevention focused people, maladaptive perfectionists have a fear of failure and a sense of what they ‘ought’ to do from a socially prescribed sense of perfectionism. However, this possible relationship had not been tested until the current study was conducted.

Research on regulatory focus in the workplace is also limited. A recent study investigated the role of regulatory focus in a work setting, specifically as it related to work attitudes, intentions, and employee behaviors. Park, Hinsz, and Nickell (2005) constructed their own measure of regulatory focus based on Higgins’ work and Lockwood, Jordan, and Kunda’s (2002) measure. Their measure yielded acceptable reliability ( $\alpha = .88$  for the promotion subscale and  $\alpha = .74$  for the prevention subscale). They found that participants with a promotion focus show more ability to concentrate at work, show a stronger willingness to perform their job better and have more positive attitudes about their work. Additionally, a promotion focus was related to a greater ability

to pay attention at work, and a prevention focus was negatively related to the ability to pay attention at work. Their overall results also indicated that regulatory focus was stable for participants (as measured by ‘at work’ items versus situation-neutral items).

Now that we have explored how perfectionism is related to several individual difference variables, we can turn to how perfectionism has been studied in the applied domains, and with different kinds of outcome variables. This will then lead to the current study of perfectionism with job-related outcome variables.

### *Research with Perfectionism and Outcome Variables*

The view of adaptive and maladaptive perfectionism is useful in both clinical and non-clinical populations, and is applicable to many situations. Because of its ease of use in applied situations, perfectionism has also been studied in relation to outcome variables such as life and job stress, attendance, depression and anxiety, hopelessness, and general health and well-being. These relationships are explored here and the research supports the current study’s intent to continue investigating potential outcome variables.

Several popular press articles and websites indicate lists or descriptions for negative outcomes of perfectionism, such as a brief in Psychology Today in 2000 (A.W., 2000), which stated that “absolutist” thinkers such as perfectionists could suffer from “health complications such as insomnia, heart palpitations, chronic fatigue, and high blood pressure” (p. 16), or the University of Texas Counseling and Mental Health Center’s website (2004), which provides a table of perfectionism outcomes of particular importance to students: “depression, performance anxiety, test anxiety, social anxiety, writer’s block, obsessiveness, compulsiveness, suicidal thoughts, loneliness, impatience, frustration, anger” (University of Texas, 2004). Although this website does not provide

supporting research information, the claims could be based on the many research studies published with clinical populations (obsessive-compulsive disorder, eating disorder patients, etc.) or the research currently published and outlined herein.

Empirical research supports the anecdotal evidence on the possible outcomes of perfectionism. Flynn (1995) published a research study titled “Perfectionism can be a health hazard.” This article summarized a longitudinal study conducted by Human Synergistics International between 1980 and 1989. The participants completed a Life Style Inventory. This inventory is intended to measure a person’s thinking styles and patterns. Of the respondents, 18% were classified as perfectionists, and they had a significant tendency to suffer from health problems, such as headaches, depression, cardiovascular problems; as well as problems at work and problems with personal relationships. The Human Synergistics International researchers quoted in the article attributed their findings to the cognitions and thinking patterns of perfectionists. Though the article does not provide much detail about the study itself, the conclusions and implications have been researched further in empirical studies since then. These additional studies will detail how the cognitive aspect has been especially researched and linked to perfectionism. There are other links to specific outcomes of perfectionism, such as to stress, coping, hopelessness, depression, anxiety, and job-specific outcomes such as impact on job performance and job satisfaction.

*Perfectionism and its relationship to stress, adjustment, coping, hopelessness, and burnout.* Research reviewed here has been conducted with non-clinical samples, typically students. While there is additional research on these outcomes focusing on clinical samples, given its limited relevance to this study, and sufficient empirical research on

non-clinical samples, it was not reviewed here. Higher levels of perfectionism have been shown to be related to higher levels of stress, difficulties in coping or adjusting, and higher levels of hopelessness (Dunkley & Blankstein, 2000; Dunkley et al., 2003; Flett, Hewitt, & De Rosa, 1996; Mitchelson & Burns, 1998; O'Connor & O'Connor, 2003).

Flett, Hewitt, and De Rosa (1996) examined the three-factor Hewitt and Flett MPS model and its relationships to psychosocial adjustment and social skills. As predicted and similar to other studies, students with high levels of socially-prescribed perfectionism reported more psychosocial adjustment problems such as loneliness, shyness, lower self-esteem, a greater fear of being negatively evaluated by others, and lower levels of self-reported social skills. Interestingly, other-oriented perfectionists and self-oriented perfectionists were not found to suffer from the same extent of social problems that socially prescribed perfectionists encountered.

Though it is interesting to know that perfectionism is related to social problems, some researchers are interested in whether perfectionism is differentially related to stress based on situational context. Mitchelson and Burns (1998) studied perfectionism in a sample of working mothers to determine the possible relationship to stress at home and at work. Their research used the three-factor Hewitt and Flett MPS model and Terry-Short et al.'s (1995) positive and negative perfectionism scale (PNP) to study perfectionism and its relationship to job burnout, parenting distress, and life and personal satisfaction. Mitchelson and Burns were particularly interested in a working mother sample because of the distinctive role that a working mother plays in her home life. The working mother typically supplies financial support as well as nurturance, and she is typically the primary caregiver, making her role different from non-working mothers. The authors anticipated

that there would be differences in how working mothers behaved at home and at work, so in the methodology, the perfectionism questionnaire was used twice, once with 'at home' at the end of each item and once with 'at work' at the end of each item. This contextualization allowed the authors to differentiate between perfectionism displayed or experienced in each of their two targeted environments, home and work. The research also included self-report measures of parenting stress, work burnout, and satisfaction with self and life.

With the contextualization of the perfectionism measure, the results did yield significant differences described below in the responses of the participants' feelings about self-oriented perfectionism, other-oriented perfectionism, and socially-prescribed perfectionism 'at home' versus 'at work'. Negative perfectionism (without contextualization) as measured by Terry-Short et al.'s scale correlated  $r = .50$  with the MPS subscales socially-prescribed perfectionism *at work*,  $r = -.30$  with socially-prescribed perfectionism *at home*, and  $r = .25$  with other-oriented perfectionism *at home*. Negative perfectionism (not contextualized) was also correlated negatively with satisfaction with life ( $r = -.31$ ) and self ( $r = .35$ ). Indicating that the higher the negative perfection, the lower the life and self satisfaction. Socially prescribed perfectionism *at home* was also negatively correlated with both satisfaction with self ( $r = -.30$ ) and life ( $r = -.30$ ), indicating that the higher the socially prescribed perfectionism *at home* level were, the lower the satisfaction with life and self. However, socially prescribed perfectionism *at work* was negatively correlated with only satisfaction with life ( $r = -.24$ ), but not self. Together, these findings suggest that negative perfectionism is related to how career mothers experienced their dual roles of a professional (at work) and mother



(at home). These working mothers were displaying different sides of their perfectionism at home than when at work. Because of this finding, the authors suggested additional research should be done with perfectionism and stress, and especially with a broader population. Though this particular study was limited in gender, the results are supportive what will be part of the current study's methodology.

While Mitchelson and Burns were interested in situational differences with similar participants, others have been interested in particular occupational differences. Flett, Hewitt, and Hallett (1994) examined the relationship between perfectionism and job stress in a sample of teachers. Using self-report measures of perceived organizational support, absenteeism, job satisfaction, job expectancy, and an inventory of teacher's stress, they examined relationships with the three-factor MPS model of perfectionism. Socially-prescribed perfectionism was found to be related to stress and low job satisfaction. Self-oriented perfectionism and other-oriented perfectionism were not correlated with the teachers' stress. Their results provide more evidence that socially prescribed perfectionism is related to job stress and job satisfaction, which has been previously indicated by Flett, Hewitt and DeRosa, and Mitchelson and Burns, providing further support to socially prescribed perfectionism as a more negative side to perfectionism than other-oriented or self-oriented perfectionism.

While the previously described research was focused on professional or situational differences, other research on perfectionism and stress focused on identifying mediators. Dunkley and Blankstein (2000) examined the relationship between a specific aspect of perfectionism (self-critical), coping, and distress to determine if a mediator existed between self-critical perfectionism and stress. Using a student population, they

measured socially prescribed and self-oriented perfectionism, self-criticism, autonomy, coping strategies, hassles, depression, anger, and psychosomatic distress. They examined the relationships between these variables through structural equation modeling techniques. The authors determined that self-critical perfectionism was a particularly maladaptive form of perfectionism based on its characteristics such as being overly critical, overly demanding of themselves, and striving for high achievement. The results of the structural equation modeling suggested that the relationship between self-critical perfectionism and outcomes such as experiences of distress and daily hassles could be accounted for by maladaptive coping behaviors. The primary conclusion of Dunkley and Blankstein's (2000) study is that maladaptive coping (such as avoidance behaviors, blaming oneself) mediated the relationship between self-critical perfectionism and levels of higher distress and daily hassles. Because coping is itself a variable that some researchers view as an outcome, it is interesting to see it appear here as a mediator.

In a follow up study, Dunkley et al. (2003) studied self-critical perfectionism, stress, and the coping mechanisms of students, using a diary study. Over seven days, students submitted a daily "diary" of questionnaire packets including measures of perfectionism, daily hassles and stressors, positive and negative affect, coping and social support, so a more robust model of the constructs could be examined. Self-critical perfectionism in this research was akin to maladaptive perfectionism, but also included a limited ability to derive satisfaction from success, and concerns about other's expectations and criticism. In this research, self-critical perfectionism was based on both MPS measures as a hybrid so that self-critical perfectionism was made from Concern over Mistakes, Doubts about Actions and Socially Prescribed Perfectionism. The

resulting complex structural equation model showed that self-critical perfectionism was related to negative affect and self-blame which were associated with avoidant coping through perceived criticism.

The results of Dunkley et al. (2003) indicate that self-critical perfectionists experience stress differently, and in turn cope with stress less effectively than personal-standards perfectionists. Self-critical perfectionist also tend to blame themselves more, and perceive more criticism from others, which impacts their negative affect and also leads to using more avoidant coping strategies. Dunkley et al. (2003) hypothesized that perfectionism could be related to Neuroticism as a personality variable due to the relationship with negative affect.

So far, previous research reviewed here showed that perfectionists experience higher levels of stress than nonperfectionists, and that perfectionists also cope with stress differently depending on the type of perfectionism (self-critical or negative versus adaptive/positive), and the nature of the stressor itself (work, school, or home-based).

O'Connor and O'Connor (2003) researched the relationship between perfectionism and coping as independent variables and their roles in predicting changes in hopelessness and distress in a sample of college students. O'Connor and O'Connor used the three-factor Hewitt and Flett model of perfectionism: socially prescribed perfectionism, self-oriented perfectionism and other-oriented perfectionism. Their hypothesis was that higher socially prescribed perfectionism in a normal sample of college students would be associated with greater changes in psychological distress. They studied a sample of college students at two specific points in time, Time 1 was during a university defined higher-stress timeframe when degree-dependent coursework was due,

and Time 2 was in a period of lower stress when there were no coursework deadlines, approximately four to five weeks later. The students completed measures of perfectionism, coping style, psychological distress, and hopelessness at Time 1 and then at Time 2 completed measures of hopelessness, psychological distress, and perceived stress. In this study, coping style was measured using an abridged version of the COPE Inventory, which assesses 14 distinct subscales or ways of coping with one to two items each. These coping styles were then combined into four higher factors: Problem Focused Coping (active coping, planning, suppressing competing activities, restraint coping), Avoidance Coping (denial, mental and behavioral disengagement, and disengagement via the use of alcohol or drugs), Lack of Emotion-Focused Coping (not seeking instrumental social support, not seeking emotional support, and not venting emotions), and Cognitive Reconstruction (positive reinterpretation to see the stressor as good in some way combined with acceptance).

Coping style was examined as a potential moderator of the relationships between perfectionism and distress or hopelessness. Only one perfectionism subscale was significantly correlated with the coping factors or stress: self-oriented perfectionism was related to lower avoidance coping. Additionally, a more adaptive coping effect was found when other-oriented perfectionists used the coping mechanism termed Cognitive Reconstruction. However, if perceived stress increased, and Avoidance coping increased, then the use of Cognitive Reconstruction decreased; which was a maladaptive pattern because cognitive reconstruction is considered an adaptive technique.

O'Connor, O'Connor, O'Connor, Smallwood, and Miles (2004), extended the earlier work of O'Connor and O'Connor (2003), and investigated whether future-thinking

moderated the relationship between stress and hopelessness and perfectionism. In this two-part study, the initial research focused on positive future thinking as a moderator between stress and hopelessness while the second study focused on the relationship between perfectionism, future thinking, and hopelessness. In the first study, participants completed four measures: the Beck Hopelessness Scale, a measure of future-thinking, The Hospital Anxiety and Depression Scale, and the Perceived Stress Scale. In the first study, depression and hopelessness were not significantly correlated. A main effect for stress was found, such that higher stress was related to increased hopelessness. However, there was an interaction between positive future thinking and stress, such that *lower* levels of positive future thinking with higher levels of stress, were associated with higher hopelessness. That interaction elicits significantly higher levels of hopelessness than when compared to elevated positive future thinking and high stress. Lower hopelessness occurred when there were high levels of stress mixed with high positive future thinking. This again shows the relationship of stress to hopelessness. The second study extended the first by adding the Hewitt and Flett MPS to the measures list.

In the second study, self-oriented perfectionism was correlated positively with positive future thinking. Positive future thinking was also correlated negatively with hopelessness, but not related to perceived stress. The main effect of higher stress and increased hopelessness was also replicated. Hopelessness was correlated with each scale of the MPS. Higher hopelessness was related to higher social perfectionism, but negative relationships were found with the other scales. Lower levels of self-oriented and other-oriented perfectionism were related to higher hopelessness. Results of hierarchical regressions indicated that the high levels of hopelessness were significantly related to

higher levels of socially prescribed perfectionism and low or “impaired” positive future thinking, even when controlling for stress. In addition, low levels of self-oriented perfectionism with impaired positive future thinking (i.e., negative future thinking) were also related to high levels of hopelessness. Finally, negative future thinking had a direct relationship to socially prescribed and other-oriented perfectionism. It is interesting to note that the authors also suggested that socially prescribed perfectionists attempt to avoid unfavorable outcomes, and self-oriented perfectionists try to drive to succeed, and move toward their goals. These interpretations align to the regulatory focus theory connections tested in the current study.

Burnout and perfectionism do not have such a well-researched history together. Burnout has been well-researched and cited in studies previously described usually as another variable, but not the key variable of interest. This is likely due to most perfectionism research occurring in non-adult samples or non-professional samples, whereas burnout is typically associated with professionals and work. Burnout by definition is “a state of physical, emotional, and mental exhaustion caused by long-term involvement in situations that are emotionally demanding” (Pines & Aronson, 1988, p.9). Because of the well-documented relationship between burnout and stress, they are often thought of as one in the same, when truly they are not. For example, a person can have a stressful job, but never reach burnout. Burnout is typically associated with high-stress professions such as air traffic controllers, but it also widespread in helping professions such as nursing, dentistry, and social work; managerial or supervisory roles; and even in the top ranks of the corporate world (Pines & Aronson, 1988).

Though self-report measures of burnout have been included in at least one study with perfectionism (Mitchelson & Burns, 1998), research has been more apt to include measures of stress, hopelessness, or anxiety as potential outcomes associated with perfectionism. Other research is more likely to focus on the association between burnout and job satisfaction without the added individual difference variable of perfectionism.

It is likely that burnout could be a job-related outcome associated with perfectionism, or a related variable to other outcomes such as job satisfaction or job performance by which perfectionism is magnified, such as if it is acting as a mediator. The concept of burnout is generally a negative concept as defined previously, and tends to be associated with other negative concepts such as stress and hopelessness. Additionally, Pines and Aronson (1988) suggest that burnout is likely to be found in individuals who are striving for peak performance or to only contribute their best to their jobs, behaviors also associated with perfectionism. The cycle of burnout though often can lead to decreased job performance as the individual tries to cope with the burnout through disassociating at work, doing only what is required, or being careless. This then can lead to increase the emotional exhaustion as the individual tries to reconcile their own personal motivation to succeed and do their best work with the coping strategies of doing less work or lower quality work.

Because this research study is focused on the differentiators between adaptive and maladaptive perfectionism and research supports the relationships between stress and hopelessness and more maladaptive aspects of perfectionism, it is likely that maladaptive aspects of perfectionism will be more likely to be associated with burnout than adaptive aspects of perfectionism. However, Pines and Aronson (1988) argue that burnout is

chiefly managed by a change in the situation, not due to an individual's own disposition. In order to clarify the possible relationship between perfectionism and burnout, and job satisfaction and performance, it is crucial that it be included in this study.

Taking the conclusions and interpretations of the two studies by O'Connor and O'Connor (2003), and O'Connor et al. (2004) together, it is clear that when perfectionism is viewed as a three-faceted construct, it differentially relates to hopelessness and stress, via positive and negative future thinking. Essentially, this means that perfectionism is related to such outcomes as hopelessness and stress, but it does depend on the strength and type of the perfectionism exhibited. Those findings supported the need to explore this further and determine if they could be replicated with adaptive and maladaptive perfectionism.

The previously described research on perfectionism and its relationship with stress, adjustment, coping and hopelessness generally supports the assertions that maladaptive perfectionism is related to higher stress, poor adjustment, and feelings of hopelessness. This finding is true even in non-clinical samples, where the levels of these outcome variables would tend to be lower than in a clinical sample.

*Perfectionism and its relationship with depression and anxiety.* As noted in the previous section, perfectionism is related to stress, hopelessness, and coping. Typically related to those constructs are also the constructs of depression and anxiety. Perfectionism has also been researched thoroughly in conjunction with these possible outcome variables. However, because depression and anxiety are not explicitly related to the job-specific outcomes of the current proposal, only a brief summary is provided.



In one of the first studies to examine perfectionism and anxiety, Flett et al. (1989) used the Burns Perfectionism Scale and the Spielberger State-Trait Anxiety Scale to show the relationship between perfectionism, anxiety and stress. Flett et al. found a significant relationship between perfectionism and state ( $r = .15$ ) and trait anxiety ( $r = .28$ ). In a follow up study, Hewitt and Flett (1990) used their own multidimensional measure (a precursor to their final MPS) with the Burns Perfectionism Scale, and added items of world-oriented perfectionism to determine the varying degrees of relatedness to depression. World-oriented perfectionism was intended to measure the belief that there are very precise and correct solutions to human and world problems. In this study, the only aspect of perfectionism that was not related to depression was world-oriented perfectionism. Not surprisingly, the strongest relationships occurred between self-critical depression and self-oriented perfectionism ( $r = .52$ ) and self-critical depression and other-oriented perfectionism ( $r = .53$ ), which were stronger than with the global correlation to Beck's Depression Inventory ( $r = .47$  with self-oriented perfectionism and  $r = .43$  with other-oriented perfectionism).

Frost, Heimberg, Holt, Mattia, and Neubauer (1993) also used the two MPS measures, and the Beck Depression Inventory, and the PANAS (positive and negative affect) as potential outcome variables to study the relationships with depression. Frost et al. (1993) found that Hewitt and Flett's self-oriented perfectionism was not correlated with negative affect or depression, however self-oriented perfectionism was correlated with positive affect ( $r = .19$ ). Socially-prescribed perfectionism was correlated with depression ( $r = .23$ ) and negative affect ( $r = .24$ ), but not positive affect; and other-oriented perfectionism was not significantly correlated with any of the possible three

outcome variables. Of the six Frost MPS subscales, Concern over Mistakes, Parental Criticism, and Doubts about Actions were correlated positively with depression and negative affect, while only Personal Standards and Organization were correlated positively with positive affect.

Flett, Hewitt, Endler, and Tassone (1994-1995) explored the relationship between different dimensions and models of perfectionism with state and trait anxiety, and found support that perfectionism is positively related to state and trait anxiety. Similar studies (Flett, Hewitt, Blankstein, & O'Brien, 1991; Hewitt & Flett, 1993; Saddler & Sacks, 1993) also support the positive relationship between perfectionism in many forms (multidimensional, unitary, or two-dimensional) with depression and anxiety. Mediators have also been examined with perfectionism and depression. Rice et al. (1998) found self-esteem was a mediator between maladaptive perfectionism and depression. Chang (2000) showed that stress served as a mediator between perfectionism and life satisfaction and negative affect. Finally, Rice and Mirzadeh (2000) examined the relationship of adaptive and maladaptive perfectionists to attachment style, academic integration (satisfaction with academic performance and academic experience), and depression. Results across two studies using self-report measures showed that attachment style can predict type of perfectionism. Adaptive perfectionists (as indicated by Frost's MPS scale) reported more secure attachment styles, and better academic integration, while maladaptive perfectionists experienced higher levels of depression, even into what is considered to be more clinical levels.

A common finding in these studies is that maladaptive perfectionism (socially prescribed, Concern over Mistakes, Doubts about Actions) is related to outcomes such as

depression, stress, hopelessness, and anxiety; and adaptive perfectionism (self-oriented, Organization, Personal Standards) is less related to those negative outcomes. While many of the reported studies here have used student samples (Chang, 2000; Flett et al., 1989; Hewitt & Flett, 1990, 1991a; Lynd-Stevenson & Hearne, 1999), we are lacking substantial empirical evidence regarding the effects of perfectionism in normal samples other than students, such as normal working adults. The last area of potential outcomes of perfectionism to be explored is that of job-related outcomes.

*Perfectionism and job-specific outcomes.* In one of the few published studies located which specifically examines perfectionism and workplace outcomes, Wittenberg and Norcross (2001) studied the relationship of perfectionism with tolerance of ambiguity and job satisfaction. Their study focused on a specific group of employees, practicing clinical psychologists in private practice. The assumption was that the psychologists are under pressure to assist their patients in getting results and are questioned for their skills and competence by patients frequently. The research used self-reported data of perfectionism, tolerance for ambiguity, and enjoyment of conducting therapy (a proxy for job satisfaction) to determine the relationships between these variables. Results using the MPS three-dimension model of perfectionism demonstrated that there was a negative relationship between total perfectionism and tolerance for ambiguity, as well as between all three dimensions of perfectionism and tolerance for ambiguity. Further, there was a significant negative relationship between total perfectionism and enjoyment of conducting therapy (job satisfaction) ( $r = -.14$ ), and between all dimensions of perfectionism and enjoyment of conducting therapy. Though the correlations are not strong, they do provide evidence to the relationship of perfectionism and job enjoyment.

The strongest negative correlation occurred between socially prescribed perfectionism and enjoyment of conducting therapy ( $r = -.20$ ). This indicates that the socially-prescribed perfectionism component was likely driving the significant negative relationship in overall perfectionism with enjoyment of conducting therapy. Interestingly, tolerance of ambiguity was positively correlated with enjoyment of conducting therapy ( $r = .27$ ). This research provides support to the current proposal, showing that socially-prescribed perfectionism can have a negative relationship to work-related outcome variables, such as job satisfaction.

Perfectionism is a complicated construct, related to developmental antecedents such as parental behavior; related to other individual difference variables such as workaholism and personality. Additionally, perfectionism has strong relationships with outcome variables such as hopelessness, stress, and depression. Though the literature is rich with research on those relationships, several researchers have called for more work with perfectionism relating to achievement or performance, and there is a specific need in this area using a normal population and in non-student, working populations. Additionally, Suddarth and Slaney (2001) concluded their article with a call for studying the Adaptive and Order dimensions of perfectionism with achievement, which in the case of the current study, job performance is an operationalization of achievement.

Though much of the research has focused on clinical or other exceptional populations, the studies described thus far have primarily focused on student samples or a comparison of clinical to non-clinical samples. The current research used those previous studies as the basis for understanding and defining the construct of perfectionism. However, because limited research exists on solely normal adult populations, such as

professional employees, this current study will move the research forward by examining the construct of perfectionism with an employee population. While we do have an understanding of the relationship of perfectionism with mental and physical health (anxiety, depression, etc.) we really do not understand its relationship with many other outcome variables including job-related variables such as job satisfaction, stress, and job performance. Therefore, the current study is an extension of the line of thinking of Rice and Mirzadeh (2000). If adaptive perfectionism has positive outcomes for student performance, it is necessary to extend this research further within the workplace because it is a student's next likely environment. This study strives to enable business professionals such as human resource recruiters, selection specialists, and managers to possibly support and defend their assertions that perfectionists are better performers.

#### *Research Questions/Hypotheses*

Although the published definitions for perfectionism are very broad and cover many angles of perfectionism, concerns about the construct still exist. For example, when parental expectations and parental criticism are included as a dimension, as it is in the six-factor Frost MPS model, it implies more about the causation of perfectionism, and less about the definition of the construct. When perfectionism as a theoretical construct is thought about in relation to adult employees in the workplace, parental influence seems less relevant. Therefore, definitions with parental influence may be viewed as less appropriate for any business application such as selection, though past research has shown and validated its inclusion in previous measures. When the definition and differentiation criteria were selected for this research, it was crucial to consider how perfectionism is different from other seemingly related psychological constructs. As has

been previously presented, perfectionism has been researched in relation to the ‘Big Five’ factors of personality, (especially Conscientiousness, Agreeableness, and Neuroticism), as well as workaholism; but not in relationship to regulatory focus yet.

Much of the previous research relied on either the Hewitt and Flett MPS, or the Frost MPS; and used the factors originally derived in each model. However, recent research (Enns et al., 2002; Frost et al., 1993; Kottman & Ashby, 1999; Rice et al., 1996; Rice & Preusser, 1992; Slaney et al., 1995, 2001; and Suddarth & Slaney, 2001) has gone beyond the given factors and subsumed them into broader, higher-level and more easily applied factors of adaptive and maladaptive perfectionism. Though the original Hewitt and Flett or Frost MPS factors are useful when more granular distinctions need to be made (especially in clinical research), there has been substantial research showing how the higher-level factors of adaptive and maladaptive perfectionism are becoming more common for broader research use outside of a clinical domain.

Because this framework of maladaptive (neurotic, unhealthy) perfectionism and adaptive (normal, healthy) perfectionism are solid and research-based, and are able to be measured using readily available self-report measures, they were used primarily as the definitions for the construct of perfectionism in this paper. In this study, the definition that was used focuses on the differentiation between adaptive and maladaptive perfectionism. Details of how perfectionism was measured are included in the Methods section. The definition is a combination of previous research which shows that:

Adaptive Perfectionists:

- Set high personal standards, but allow themselves to be less precise as the situation warrants

- Have a desire for achievement, not hampered by a fear of failure
- Are organized
- View their tendencies and motivations as other and self-oriented

#### Maladaptive Perfectionists:

- Set high standards but do not accept themselves for making mistakes and feel that they have never performed well enough
- Have a high sense of doubt about themselves
- Perceive high parental expectations and criticism
- View their tendencies and motivations as socially prescribed  
(perceiving the environment to be socially requiring perfectionism)

Based on the limited research studies relating perfectionism to adults in the workplace, the call from several researchers to examine this construct in real-world domains, and the availability of a sample of professional employees, the following research questions were developed. The hypotheses are based upon previous research with multidimensional perfectionism in an effort to move this line of applied research forward using adaptive and maladaptive perfectionism.

The research followed a two-part model consisting of a two studies. The purpose of the first study was to establish the psychometric properties of the measures of perfectionism within a normal working adult sample, and to verify the utility of several dependent variable measures. The end goal was to determine which measure of perfectionism should be used for the second study, and which dependent variable measures will provide the greatest utility within the second sample. Due to time limitations with the participants of the second study, some outcome measures were

excluded from the second study. However, because the first study included almost all the measures used in the second study, the hypotheses are presented as pertaining to both studies.

Hypothesis 1: Adaptive perfectionists will have lower levels of mental health-related issues than Maladaptive perfectionists, specifically lower levels of stress.

Hypothesis 2: Adaptive perfectionists will differ from Maladaptive perfectionists on personality characteristics such as regulatory focus, workaholism, and the Big Five factors of personality.

Hypothesis 2a: Adaptive perfectionists will have higher promotion regulatory focus and Maladaptive perfectionists will have higher prevention regulatory focus.

Hypothesis 2b: Adaptive perfectionists will report higher enjoyment than Maladaptive perfectionists and should not differ on drive on the workaholism scale.

Hypothesis 2c: Adaptive perfectionists will report higher Conscientiousness than Maladaptive perfectionists.

Hypothesis 2d: Adaptive perfectionists will report higher Agreeableness than Maladaptive perfectionists.

Hypothesis 2e: Maladaptive perfectionists will report higher Neuroticism than Adaptive perfectionists.

Hypothesis 3: Adaptive perfectionists will differ from Maladaptive perfectionists on job-related outcome variables.



Hypothesis 3a: Adaptive perfectionists will have higher overall job performance scores than Maladaptive perfectionists.

Hypothesis 3b: Adaptive perfectionists will report longer intentions to stay with their company than Maladaptive perfectionists.

Hypothesis 3c: Adaptive perfectionists will report that they will recommend their organization as a great place to work more than Maladaptive perfectionists.

Hypothesis 3d: Adaptive perfectionists will report higher overall job satisfaction than Maladaptive perfectionists.

Hypothesis 3e: Adaptive perfectionists will report less burnout than Maladaptive perfectionists.

Hypothesis 4: Stress and burnout will mediate the relationship between maladaptive perfectionism and the outcomes of job performance and job satisfaction.

Hypothesis 4a: Stress will mediate the relationship between maladaptive perfectionism and job performance.

Hypothesis 4b: Stress will mediate the relationship between maladaptive perfectionism and job satisfaction.

Hypothesis 4c: Burnout will mediate the relationship between maladaptive perfectionism and job performance.

Hypothesis 4d: Burnout will mediate the relationship between maladaptive perfectionism and job satisfaction.

## Chapter 2: Method: Study One

### *Purpose*

The purpose of Study One was three-fold. First, it served as essentially a pilot study to re-evaluate a set of perfectionism measures with working adult students and allow for a decision on which perfectionism measures were used in Study Two which was a more specialized sample, that of full time employees within one organization. The psychometric properties of the perfectionism measures were evaluated to help make this decision. Second, Study One served to evaluate a series of dependent variables to determine which would be the most useful in Study Two to maximize the use of the valuable company sample. Finally, Study One allowed for investigation of the relationship between perfectionism and other individual difference variables such as personality measures and regulatory focus. Only some of these were used in Study Two, due to time constraints of the participants. Together, these three goals enabled the researchers to broaden the net of variables and gather relevant data without compromising the second sample where time was more of a critical element.

### *Participants and Procedure*

*Participants.* Participants included 193 undergraduate and graduate students of a mid-western university. Because part of the purpose of the first study was to serve as a pilot for the second study conducted with full-time employees, it was important that the student sample was somewhat similar to the second sample. Therefore, only data from students employed at least 20 hours per week were used for the first study, dropping to 183, the total number of participants whose data could be used.

Of these 183 participants, 63 (34%) were male and 120 (66%) were female. Of the categories listed for ethnicity, nine (5%) were African American, four (2%) were Asian or Pacific Islander, 163 (89%) were Caucasian, two (1%) were Hispanic or Latin American, and five (3%) were Multi-Racial. The majority of participants were Caucasian. The age distribution indicated that 112 (61%) participants were 18-21 years old, 39 (21%) were 22-25, 19 (10%) were 26-29, five (3%) were 30-33, two (1%) were 34-37, two (1%) were 38-41 and four (2%) were 42 years old or older. There was a good distribution of participants across year in school, with 32 (18%) in their Freshman/first year, 46 (25%) were Sophomores/second year, 37 (20%) were Junior/third year, 43 (24%) were Senior/fourth year, and 25 (13%) were Graduate students. Self-reported Majors included a full range of students (Art, Psychology, Sociology, Spanish, Nursing, Pre-Med, Pre-Pharmacy, Economics, Biology, Business, Education, etc.) indicating that the participants were not primarily psychology majors. The average Grade Point Average was 3.2 on a 4.0 scale, with responses ranging from 2.0 to 4.0.

A majority of respondents (38.8%) reported working 20-24 hours per week, while the remainder worked more. Data from students who reported working fewer than 20 hours per week were not included in the analyses. The majority of participants had been with their current company for less than two years. One-hundred eighteen participants (65%) had less than two years of tenure with their company, 41 (22%) had 2-4 years of tenure, 12 (7%) had 4-5 years of tenure, 8 (4%) had 6-10 years of tenure, and 3 (2%) had more than 10 years of tenure. There was a good distribution across different industries, with the highest frequencies in Retail, Healthcare, Restaurants, and Customer Service. Additional information is presented in Table 2.

Table 2

*Study One Participant Demographics*

Variable	N	% of Sample
Gender: Male	63	34.4
Gender: Female	120	65.6
Ethnicity: African American	9	4.9
Ethnicity: American Indian or Alaskan Native	0	0.0
Ethnicity: Asian or Pacific Islander	4	2.2
Ethnicity: Caucasian	163	89.1
Ethnicity: Hispanic or Latino(a)	2	1.1
Ethnicity: Multi-Racial	5	2.7
Work hours/wk: No response <sup>a</sup>	3	1.5
Work hours/wk: 0-19 <sup>a</sup>	5	2.5
Work hours/wk: 20-24	71	38.8
Work hours/wk: 25-29	35	19.1
Work hours/wk: 30-34	24	13.1
Work hours/wk: 35-39	13	7.1
Work hours/wk: 40-44	29	15.8
Work hours/wk: 45-49	8	4.4
Work hours/wk: 50+	3	1.6
After graduation, do you intend to continue to work for your current employer? Yes	22	12.0
After graduation, do you intend to continue to work for	107	58.5

Variable	N	% of Sample
your current employer? No		
After graduation, do you intend to continue to work for your current employer? No	54	29.5
your current employer? Not Sure		
After graduation, do you intend to continue in the same job for your current employer? Not Sure	10	5.5
your current employer? Yes		
After graduation, do you intend to continue in the same job for your current employer? Yes	139	76.0
your current employer? No		
After graduation, do you intend to continue in the same job for your current employer? No	34	18.6
your current employer? Not Sure		

<sup>a</sup> These participants were excluded from analysis and are not reflected in any of the other calculations on this table.

*Procedure.* Participants were recruited via business cards distributed through the University psychology department and business departments to eligible participants with a link to the online questionnaires. Participants were notified in the instructions of their rights as participants (thus meeting the need for informed consent) when taking the survey. Participants were notified that the survey is not strictly anonymous, but confidential because a list of the participants would be submitted to the University for course credit via Experimentrak where applicable, however their responses would not be connected to their names. The survey tool website was open to receive responses and able to accept data until enough participants had completed the survey for results to be reliable (originally estimated at 200-300 respondents).

The multirater.com survey program recorded the data and the raw data was exported to Excel, and then imported to a statistical software program, SPSS. It is a technically secure and safe system and was used as the online data gathering system for the first study.

### *Measures*

*Perfectionism measures.* The student sample was asked to complete the following measures, which are provided in Appendix A. Several of the perfectionism measures were pilot-tested in Study One to determine which would be the best differentiator of adaptive and maladaptive perfectionism used in Study Two. Two of the measures are inherently built to differentiate between these two types of perfectionism, and one of the measures was not developed for the purpose of this distinction, but has been used in previous research to divide samples into those groups.

*The Multidimensional Perfectionism Scale (MPS)*. The MPS by Frost, Marten, Lahart and Rosenblate (1990) is based on six dimensions defined by traits or behaviors perfectionists exhibit: excessive concern over mistakes, high personal standards, perception of high parental expectations and criticism, doubting the quality of own actions, and a preference for order and organization. Frost's measure then yields six subscales from those behaviors and traits: Concern over Mistakes (9 items), Parental Expectations (5 items), Parental Criticism (4 items), Doubts about Actions (4 items), Personal Standards (7 items), and Organization (6 items), totaling 35 items. In the Frost et al. (1990) study, the MPS perfectionism scale had an overall alpha coefficient of reliability of .91. The items were rated on a five-point scale of strongly agree to strongly disagree. Parker and Adkins (1995) provided an internal consistency coefficient of the full measure of .88 with subscale reliabilities ranging from .57 to .95. Rice and Ashby (2007) also reviewed the measure recently and found subscale reliabilities ranging from .76 to .91 and a similar factor structure was produced, indicating cross-validated sound psychometric properties of the measure. Additional details of the measure are provided in Table 1, and the items are listed in Appendix A. For the Multidimensional Perfectionism Scale used in Study One, alpha coefficients were  $\alpha = .87$  for the full measure; for Concern over Mistakes  $\alpha = .82$ , Personal Standards  $\alpha = .77$ , Parental Expectations  $\alpha = .80$ , Parental Criticism  $\alpha = .81$ , Doubts about Actions  $\alpha = .76$  and Organization  $\alpha = .92$ .

One goal of using this measure was to determine if it can be used to differentiate adaptive and maladaptive perfectionism, or if it can be used without the parental subscales to yield similar groupings. Based on Suddarth and Slaney (2001), the measure was tested to group participants into adaptive or maladaptive groupings based on the

subscales, and the items were tested in conjunction with other scale items to see if a combined measure approach worked better.

Participants were classified as either adaptive or maladaptive perfectionist or neither. Because the factors within the MPS are either a maladaptive or an adaptive factor, scores were combined from the maladaptive factors to yield a total Maladaptive score (average on Concern Over Mistakes, Doubts about Actions, Parental Expectations and Parental Criticism) and a total Adaptive score (Personal Standards and Organization). MPS Adaptive perfectionists were those with a total score higher than the median on the Adaptive factors (in this study a score higher than 50) and lower than the median on the MPS Maladaptive factors (in this study a score lower than 57). Maladaptive perfectionists were those with a score higher than the median on the Maladaptive factors ( $> 57$ ) and lower than the median on the Adaptive factors ( $< 50$ ). If a participant scored higher than the median on both factors, or lower than the median on both factors, they were classified as neither and were excluded. Using this method in study one yielded a total of 36 (20%) Adaptive perfectionists, 44 (24%) Maladaptive perfectionists, and 103 (56%) as unclassified.

*Almost Perfect Scale-Revised.* Slaney et al. (2001) defined perfectionism as a hybrid model, and this measure is based on three facets to determine adaptive or maladaptive perfectionism: High Standards (7 items; internal consistency = .85), Order (4 items; internal consistency = .86), and Discrepancy (12 items, internal consistency = .92). It is measured using a seven-point scale of strongly disagree to strongly agree. The Standards scale determines the categorization of perfectionism versus non-perfectionist; then the Discrepancy scale determines the maladaptive versus adaptive perfectionism



classification. A person is determined to be maladaptive if there is a discrepancy between what their personal standards are and what they are achieving. It has been used by Slaney in much of the cited literature, as well as Ashby and Kottman (1996) and Kottman and Ashby (1999). Details of the measure are provided in Table 1, and the items are listed in Appendix A. For the Almost Perfect Scale-Revised, alpha reliability coefficients in study one were  $\alpha = .88$  for the full measure; for Standards  $\alpha = .84$ , Discrepancy  $\alpha = .95$ , and Order  $\alpha = .88$ .

Using the APS-R, perfectionists were identified when their scores on the Standards subscale were above the 67<sup>th</sup> percentile for the sample (top third;  $M > 6.14$ ). The participants below the 67<sup>th</sup> percentile were excluded and the remaining top third are Perfectionists. In this study, within the Perfectionists, (top 1/3 of Standards) those above the median on the Discrepancy subscale ( $> 3.25$ ) were Maladaptive Perfectionists and those below the median ( $< 3.25$ ) were Adaptive perfectionists. This method yielded 27 (15%) Adaptive perfectionists and 39 (21%) Maladaptive perfectionists, excluding 117 (64%) from further analysis.

*Adaptive/Maladaptive Perfectionism Scale.* The Adaptive/Maladaptive Perfectionism Scale (AMPS; Rice & Preusser, 2002) was originally developed for use in children using items from other measures. Its initial testing was completed with two samples of children in the fourth and fifth grades. It is composed of 27 items in four dimensions: Sensitivity to Mistakes, Contingent Self-Esteem, Compulsiveness, and Need for Admiration. Subscale reliability information is provided from each original sample. Sensitivity to Mistakes includes 9 items, ( $\alpha = .91$  and  $.90$ ) Contingent Self-Esteem is 8 items ( $\alpha = .86$  and  $.73$ ) Compulsiveness is 6 items ( $\alpha = .87$  and  $.75$ ) and Need for

Admiration is 4 items ( $\alpha = .85$  and  $.81$ ). The response scale is four points from “really unlike me” to “really like me”. It is described in further detail in Table 1 and Appendix A. Because it was developed for use in children, alterations for the items are indicated in the Appendix, which were tested for its new psychometric properties in Study One. Descriptive statistics about the measure from Rice and Preusser (2002) were shown previously in the Introduction in Table 1 and subscale correlations are provided in the upcoming correlations section.

The AMPS is mostly used to identify maladaptive perfectionists rather than differentiate between the two. An e-mail with one of the authors of the measure (K.G. Rice, personal communication, January 11, 2007) suggested that it might not be applicable to use this measure to distinctly classify college-age students as adaptive or maladaptive perfectionists, and he instead recommended relying on one of the other two perfectionism measures.

To test the hypotheses therefore, the classification method is more exploratory using the AMPS than a proven method from the authors. Based on the results of the correlations with the other perfectionism measures from previous research and described later in the Correlations results section, the descriptions of each subscale, and personal communications with the measure’s first author, Contingent Self-Esteem and Compulsiveness were determined to be adaptive factors, and Need for Admiration and Sensitivity to Mistakes were determined to be maladaptive factors. Alpha reliability coefficients were  $\alpha = .71$  for the full measure; however reliability coefficients for two of the four subscales did not reach acceptable levels. Sensitivity to Mistakes  $\alpha = .82$ , Contingent Self-Esteem  $\alpha = .72$ , Compulsiveness  $\alpha = .58$ , and Need for Admiration  $\alpha =$

.66. It is possible that the minor changes made to this scale to make it more applicable to adults and work rather than children in school made it slightly less reliable.

A similar process to the MPS classification was used with two higher-order factors, such that participants were classified based on being above the median on the adaptive factor, maladaptive factor, both, or neither. This resulted in 48 (26%) Adaptive perfectionists, 52 (28%) Maladaptive perfectionists, and 83 (45%) being excluded from analyses using the AMPS.

The Multidimensional Perfectionism Scale from Hewitt and Flett was not used in this research because it is now only a commercially available measure with substantial costs. We believe the other measures will be sufficient to answer the research questions.

*Outcome Measures.* All of the dependent variables used in the first study are provided in Appendix B. The first study was used to determine which of the measures were used in the second study.

*Stress.* Stress was measured by the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983). It includes 14 items which measure a global level of perceived stress on a five-point scale of “never” to “very often”. This measure asks the participant about life events and feelings of anxiety or stress and general affect in the past month. In development the measure was not related to age or gender, was correlated and validated against other stress measures successfully, and used in samples of college-aged and adult participants. Reliability coefficients in three developmental studies of the scale were .84, .85, and .86. Stress was measured by the Perceived Stress Scale (Cohen et al., 1983), and the alpha reliability coefficient from this study was  $\alpha = .86$ . Items are provided in Appendix B.

*Burnout.* The Burnout Measure, short version (Malach-Pines, 2005) was used to assess burnout using 10 items. The items are measured on a seven-point scale of “never” to “always”, and has reported internal consistency of .85 and .87 in two samples, and a test-retest reliability of .74. It is a shorter version of an original 21 item measure of burnout, but this 10-item version has shown high correlations with the original version (.77 and .89). The alpha coefficient for this study was  $\alpha = .93$ . It is provided in Appendix B.

*Job satisfaction.* The company selected for the second study uses several standardized items on their employee survey of how long the employee expects to stay with the company, their agreement with recommending the company as a great place to work, and global job satisfaction. Because these items were already familiar to the full-time employee sample in the second study and of interest to the company, these items were also used in the first study. Items are provided in Appendix B. In previous research, the first two items have a Cronbach's Alpha of .65, and were significantly correlated with each other ( $r = .48, p < .01$ ). A version of the third item was used with a sub-sample of the employees in 2006 (Considering everything, how satisfied are you with X Company at the present time?) and it correlated positively with the other two items ( $r = .27, p < .01$  with expecting to stay with the company and  $r = .42, p < .01$  with recommending the company as a great place to work). The alpha of the three items together with the student sample was  $\alpha = .68$ . Due to the strong likelihood that participants are not going to remain with their current employer after graduation, and may not view their employer as their employer of choice for their career, it is natural for the reliability of these three

items to not be as strong as might be expected with a full-time employed sample such as will be used in Study Two.

*Other Individual Difference Measures.* Regulatory focus, workaholism, personality and additional demographics are considered individual difference variables. Details for these are provided below. The first study was used to determine which of these were used in the second study.

*Regulatory focus.* The measure from Park et al. (2005) was included in the first study. It includes 20 items measured on a seven-point scale of “not at all true of me” to “completely true of me” and is provided in Appendix C. The measure is subdivided into two larger subscales of Promotion or Prevention focus, where items are related to the individually seeking success versus preventing or avoiding failure. Within the Promotion and Prevention subscales each is further divided into items relating to a work situation (Work) or a non-specific situation (General). This allows the measure to be used with two larger scales Promotion or Prevention, or four smaller scales: Prevention-Work, Prevention-General, Promotion-Work, and Promotion-General. The promotion subscale had a reliability of .88 and the prevention subscale had a reliability of .74 in the Park et al. (2005) research.

For the regulatory focus measure (Park et al., 2005) the internal consistency coefficients for each subscale or combination generally reached acceptable levels: Promotion  $\alpha = .85$ , and Prevention  $\alpha = .78$ . When looking at the smaller more specific subscales, the reliability coefficients were: Promotion- Work  $\alpha = .83$ , Promotion-General  $\alpha = .75$ , Prevention-Work  $\alpha = .68$ , and Prevention- General  $\alpha = .63$ . This indicates that the more specific prevention subscales (Prevention-Work and Prevention-

General) were more reliable when used together, and the more specific promotion subscales (Promotion-Work and Promotion-General) were more reliable when used together also. The items in Appendix C indicate their classification.

*Workaholism.* A modified version of the Spence and Robbins (1992) scales was used from McMillan, Brady, O’Driscoll, and Marsh (2002). This measure includes two factors of Enjoyment and Drive, totaling 14 items, measured on a five-point scale from strongly agree to strongly disagree. These two new factors of Enjoyment and Drive correlated with each other mildly ( $r = .22$ ) and internal consistency was Enjoyment  $\alpha = .85$ ; Drive  $\alpha = .75$  in its original testing from McMillan et al. (2002). The reliability coefficients in this study showed consistency for the full measure  $\alpha = .80$ , and for each subscale Enjoyment  $\alpha = .88$  and Drive  $\alpha = .74$ . It was used in the first study to examine convergent validity with perfectionism. Items are provided in Appendix C.

*Personality.* The Big Five Personality factors were measured using a 50 item scale from the Goldberg International Personality Item Pool (International Personality Item Pool, 2001). The measure includes five subscales of 10 items each, corresponding to each factor. The reliabilities of each factor as indicated from the IPIP database are: Extraversion ( $\alpha = .87$ ), Agreeableness ( $\alpha = .82$ ), Conscientiousness ( $\alpha = .79$ ), Emotional Stability/Neuroticism ( $\alpha = .86$ ), and Openness ( $\alpha = .84$ ). Items were measured on a five-point scale of “very inaccurate” to “very accurate” and are provided in Appendix C. Lim and Ployhart (2006) compared the 50-item IPIP measure against the NEO-FFI, and found that the IPIP factors correlated significantly with the NEO-FFI factors. Openness ( $r = .71$ ), Conscientiousness ( $r = .72$ ), and Neuroticism ( $r = .76$ ) all correlated with their counterpart factors above .70, while Extroversion correlated with its counterpart .69 and

Agreeableness correlated .50 with its counterpart. The reliabilities of the IPIP factors reported by Lim and Ployhart (2006) were similar to those reported by the IPIP website (Extraversion  $\alpha = .74$ ), Agreeableness ( $\alpha = .85$ ), Conscientiousness ( $\alpha = .79$ ), Emotional Stability/Neuroticism ( $\alpha = .80$ ), and Openness ( $\alpha = .90$ ). In terms of validity, the confirmatory factor analyses confirmed the same model in each measure, indicating convergent validity (Lim & Ployhart, 2006). The results of the subscale reliability analysis in this study for the personality measure indicated reliability coefficients that were similar to the IPIP website and Lim and Ployhart (2006) reliabilities with the exception of Agreeableness. For the subscales, Neuroticism  $\alpha = .91$ , Extraversion  $\alpha = .92$ , Openness  $\alpha = .81$ , Agreeableness  $\alpha = .60$ , and Conscientiousness  $\alpha = .85$ .

*Demographics.* The demographics questions that were collected are included in Appendix C. This includes tenure, gender, ethnicity, age, and job area/profession, and for the student sample in Study One: number of hours worked per week, college GPA, Major, and year in school.

## Chapter 3: Study One Results

### *Study One Research Questions and Analysis*

The data from the first study were used to determine the psychometric properties of the measures of perfectionism as well the outcome and additional measures (reliability coefficients, subscale reliabilities). Descriptive statistics were examined to determine the nature of the sample, and the data were used to examine if differences were likely as a result of tenure, gender, or job function using t-tests or ANOVAs. This information was helpful to determine if additional selection criteria were needed for the second study. Results follow the descriptive statistics.

*Descriptive statistics.* Descriptive statistics about the self-report measures of perfectionism, stress, burnout, workaholism, regulatory focus and personality are available in Table 3, and correlations between the subscales within each measure are described later in the Correlations section.



Table 3

*Descriptive Statistics of Study One Measures*

Variable	M	SD	Min	Max	N
Participant Grade Point Average (GPA)	3.2	.496	2.0	4.0	158
MPS-Adaptive Factors Total	49.22	6.715	28.0	65.0	183
MPS-Maladaptive Factors Total	58.36	12.336	27.0	92.0	183
MPS- Concern over Mistakes	2.68	.641	1.00	4.33	183
MPS- Doubts about Actions	2.60	.800	1.00	5.00	183
MPS- Personal Standards	3.71	.608	1.43	5.00	183
MPS- Organization	3.88	.721	2.00	5.00	183
MPS- Parental Criticism	2.14	.808	1.00	4.75	183
MPS- Parental Expectations	3.06	.832	1.00	5.00	183
APS-R Standards	5.78	.776	3.00	7.00	183
APS-R Order	5.40	1.015	2.00	7.00	183
APS-R Discrepancy	3.51	1.275	1.17	6.92	183
AMPS-Adaptive Factors Total	44.43	4.572	33.0	55.0	183
AMPS-Maladaptive Factors Total	32.45	6.811	18.0	50.0	183
AMPS- Sensitivity to Mistakes	2.38	.555	1.33	3.78	183
AMPS- Contingent Self-Esteem	3.45	.410	2.13	4.00	183
AMPS- Compulsiveness	2.82	.521	1.33	4.00	183
AMPS- Need for Admiration	2.82	.630	1.25	4.00	183
Perceived Stress Scale	2.91	.568	1.43	4.36	183
Burnout Short Measure	3.09	1.131	1.0	6.5	183

Variable	M	SD	Min	Max	N
Job Satisfaction: Expect to stay with Company (yrs)	2.37	1.045	1.0	5.0	176
Job Satisfaction: Recommend Company as a great place to work	3.74	.989	1.0	5.0	182
Job Satisfaction: Overall Satisfaction item	3.72	.986	1.0	5.0	183
Job Satisfaction: Three Item Average	3.29	.791	1.0	5.0	183
Regulatory Focus- Prevention All	3.64	1.021	1.0	6.1	183
Regulatory Focus- Prevention General	3.83	1.077	1.0	6.4	183
Regulatory Focus- Prevention Work	3.46	1.203	1.0	6.2	183
Regulatory Focus- Promotion All	5.59	.848	2.1	7.0	183
Regulatory Focus- Promotion General	5.73	.933	1.6	7.0	183
Regulatory Focus- Promotion Work	5.44	1.004	2.2	7.0	183
Workaholism- Total	3.36	.562	1.71	4.86	183
Workaholism- Drive	3.75	.670	2.0	5.0	183
Workaholism- Enjoyment	2.97	.823	1.0	5.0	183
Personality- Neuroticism/Emotional Stability	3.09	.840	1.0	5.0	183
Personality- Extraversion	3.39	.878	1.10	5.0	183
Personality- Openness	3.75	.582	2.0	5.0	183
Personality- Agreeableness	3.63	.393	2.0	4.5	183
Personality- Conscientiousness	3.85	.608	2.22	5.0	183

*Note.* MPS: Multidimensional Perfectionism Scale; APS-R: Almost Perfect Scale-

Revised; AMPS: Adaptive/Maladaptive Perfectionism Scale.

*Demographics.* To examine possible differences in results by basic demographics, t-tests or ANOVAS were used to determine differences in perfectionism for gender, ethnicity, tenure, and year in school. A t-test did show significant differences by gender for the subscales of MPS Concern Over Mistakes, MPS Organization, AMPS Contingent Self-Esteem, and AMPS Compulsiveness. This could also be due to the over-representation of females in the sample compared to male participants. The t-test for MPS Concern Over Mistakes was significant  $t(181) = 2.23, p < .05$ , indicating that the average Concern Over Mistakes level of the males ( $M = 2.83, SD = .61$ ) was significantly higher than the average Concern Over Mistakes level of the females ( $M = 2.61, SD = .65$ ), with an effect size Cohen's  $d = .33$ , a small to medium difference. The t-test for MPS Organization was significant  $t(181) = -4.48, p < .05$ , indicating that the average Organization level of the females ( $M = 4.04, SD = .61$ ) was significantly higher than the average Organization level of the males ( $M = 3.56, SD = .82$ ), with an effect size Cohen's  $d = -.67$ , a medium to large difference. The t-test for AMPS Contingent Self-Esteem was significant  $t(181) = -1.98, p < .05$ , indicating that the average Contingent Self-Esteem level of the females ( $M = 3.49, SD = .40$ ) was significantly higher than the average Contingent Self-Esteem level of the males ( $M = 3.36, SD = .41$ ) with an effect size Cohen's  $d = -.29$ , a small to medium difference. Lastly, the t-test for AMPS Compulsiveness was significant  $t(181) = -3.03, p < .05$ , indicating that the average Compulsiveness level of the females ( $M = 2.91, SD = .49$ ) was significantly higher than the average Compulsiveness level of the males ( $M = 2.67, SD = .54$ ), with an effect size Cohen's  $d = -.45$ , a small to medium difference, similar to the results for MPS Organization.

Examining differences by ethnicity was tenuous due to the overrepresentation of Caucasians in the sample compared to the other ethnicities represented. Eighty-nine percent of the sample was Caucasian, leaving just over 10% of participants representing all other ethnic or racial groups. Because of this, those participants were re-grouped together into under-represented minorities and compared to the Caucasians, still an unbalanced comparison. Using a t-test to test these differences in the perfectionism measures, significant differences were found for the MPS Personal Standards and APS Standards subscales. The t-test for MPS Personal Standards was significant  $t(181) = 2.56, p < .05$ , indicating that the average Personal Standards level of the Caucasians ( $M = 3.75, SD = .58$ ) was significantly higher than the average Personal Standards level of the non-Caucasians ( $M = 3.39, SD = .74$ ) with an effect size Cohen's  $d = .38$ , a small to medium difference. Similarly, the t-test for APS Standards was significant  $t(181) = 4.03, p < .05$ , indicating that the average Standards level of the Caucasians ( $M = 5.86, SD = .71$ ) was significantly higher than the average Standards level of the non-Caucasians ( $M = 5.14, SD = 1.02$ ), with an effect size Cohen's  $d = .60$ , a medium to large difference.

Differences due to tenure with a company were tested with perfectionism measures, and though tenure was skewed to the 0-2 years end of the scale (64% of participants), the ANOVA did not show significant differences.

Lastly, year in school was tested with the perfectionism measures to determine if any differences were present. This demographic had good representation across the sample, and one significant difference was found. The ANOVA was significant for the APS Standards subscale ( $F(4) = 2.62, p < .05$ ). The means were as follows: Freshman/first 5.71, Sophomore/second 5.75, Junior/third 5.49, Senior/fourth or more

5.98, Graduate Student 5.99. Conducting Tukey's as a post-hoc test indicated that the only significant difference was that Senior-level students were significantly higher ( $M = 5.98$ ,  $SD = .78$ ) on APS Standards than Juniors ( $M = 5.49$ ,  $SD = .61$ ).

*Correlations.* Due to the number of perfectionism measures, individual difference variables and outcome measures that were used in Study One, the correlation tables reflect relevant comparisons separately rather than one overall matrix. First, it was important to examine the correlations between subscales but within each perfectionism measure. Then, correlations between perfectionism measures were examined and used to determine which measure to carry forward to Study Two. Last, correlations between the perfectionism measures, individual difference measures, and outcome measures were examined and are presented as part of the hypotheses testing.

The correlation matrix for the subscales of the MPS is presented in Table 4. In general, the MPS patterns follow the groupings of the subscales into adaptive and maladaptive such that the subscales making up a maladaptive factor correlated positively (Concern Over Mistakes, Parental Expectations, Parental Criticism, and Doubts About Actions) and the subscales combined for an adaptive factor correlated positively (Personal Standards and Organization).

Table 4

*Multidimensional Perfectionism Scale Subscale Correlations (N=183)*

	1	2	3	4	5	6
1. Concern Over Mistakes	.82					
2. Doubts About Actions	.52**	.76				
3. Personal Standards	.44**	-.02	.77			
4. Organization	-.12	-.16*	.22**	.92		
5. Parental Criticism	.36**	.41**	.02	-.19*	.81	
6. Parental Expectations	.39**	.21**	.32**	-.08	.60**	.80

*Note.* Diagonal reflects alpha reliability coefficient.

\*  $p < .05$

\*\*  $p < .01$

The correlation matrix for the subscales of the APS, presented in Table 5, shows that Order correlated significantly with Standards but not with Discrepancy. Discrepancy was not significantly correlated with Standards or Order, showing evidence of discriminant validity of this subscale. This indicates that Discrepancy is possibly a separate maladaptive factor from Standards and Order. The correlation matrix for the subscales of the AMPS shows significant correlations between subscales (see Table 6), mostly positive between Sensitivity to Mistakes and the other three subscales, with the exception of Contingent Self-Esteem.

Table 5

*Almost Perfect Scale-Revised Subscale Correlations (N=183)*

	1	2	3
1. Standards	.84		
2. Discrepancy	.09	.95	
3. Order	.34**	-.07	.88

*Note.* Diagonal reflects alpha reliability coefficient.

\*  $p < .05$

\*\*  $p < .01$

Table 6

*Adaptive Maladaptive Perfectionism Scale Subscale Correlations (N=183)*

	1	2	3	4
1. Sensitivity to Mistakes	.82			
2. Contingent Self-Esteem	-.45**	.72		
3. Compulsiveness	.27**	-.01	.58	
4. Need for Admiration	.52**	-.11	.17*	.66

*Note.* Diagonal reflects alpha reliability coefficient.

\*  $p < .05$

\*\*  $p < .01$

Next, when examining the correlations of the job satisfaction items with one another in Table 7, recommending the company as a great place to work is correlated positively and significantly with overall job satisfaction ( $r = .72$ ), indicating that those two items were strongly related, but staying with the company long-term is not a strong indicator of job satisfaction with this sample. The three items together had an overall alpha coefficient of reliability of .68.

Table 7

*Job Satisfaction Item-to-Item Correlations (N=183)*

	Expect to Stay	Recommend
Recommend	.25**	
Overall	.29**	.72**

*Note.* Expect to stay = I expect to work for this company X more years;

Recommend = I would recommend my company as a great place to work;

Overall = Considering everything, how satisfied are you with your job?

\*  $p < .05$

\*\*  $p < .01$



As indicated in the Methods section, Regulatory Focus was included as an individual difference measure. Because of the nature of Promotion versus Prevention as the two distinctive types of focus, the results were separated based on the subscales of Prevention focus (Prevention-all) and Promotion focus (Promotion-all). Each subscale is also further refined as items based specifically about work versus general focus.

Illustrated in Table 8 are the subscale correlations, which indicated that Promotion and Prevention are not significantly related, giving support for discriminant validity, and also that promotion-work and promotion-general are more closely related to each other than the prevention subscales. Due to the reliability of prevention and promotion as separate higher-order factors but not specified as work or general, in the analyses that follow the results will be presented with prevention-all, or promotion-all and not the finer four subscales.

Table 8

*Regulatory Focus Subscale Correlations (N=183)*

	1	2	3	4	5	6
1. Promotion- All	.85					
2. Prevention- All	.04	.78				
3. Promotion-Work	.89**	.08	.83			
4. Promotion- General	.87**	-.01	.53**	.75		
5. Prevention-Work	.05	.91**	.09	-.01	.68	
6. Prevention-General	.01	.88**	.04	-.02	.61**	.63

*Note.* Diagonal reflects alpha reliability coefficient.

\*  $p < .05$

\*\*  $p < .01$

The correlations between the Workaholism subscales, the total measure and each subscale show that Enjoyment and Drive were not significantly correlated with each other, but were strongly correlated to the total measure score shown in Table 9. This indicates discriminant validity for the two subscales of workaholism measured here.

Table 9

*Workaholism Scale and Subscale Correlations (N=183)*

	1	2	3
1. Full Measure	.80		
2. Enjoyment	.81**	.88	
3. Drive	.69**	.13	.74

*Note.* Diagonal reflects alpha reliability coefficient.

\*  $p < .05$

\*\*  $p < .01$

The correlations between the Big Five personality scales show that Agreeableness and Conscientiousness were significantly positively correlated with each other in Table 10. Neuroticism was not significantly correlated with Agreeableness, but was positively correlated with Conscientiousness. This is important because the hypotheses were similar for Agreeableness and Conscientiousness (Adaptives would be more Agreeable and Conscientious) and reversed for Neuroticism/Emotional Stability (Maladaptives would be higher on Neuroticism, i.e., lower on Emotional Stability).

Table 10

*International Personality Item Pool Scale and Subscale Correlations (N=183)*

	1	2	3	4	5
1. Emotional Stability	.91				
2. Extraversion	.28**	.92			
3. Openness	.13	.27**	.81		
4. Agreeableness	.11	.25**	.36**	.60	
5. Conscientiousness	.20**	.30**	.21**	.34**	.85

*Note.* Diagonal reflects alpha reliability coefficient.

\*  $p < .05$

\*\*  $p < .01$

Correlations of perfectionism subscales and measures with each other were calculated in order to assess the construct validity of the perfectionism measures, to determine the degree of overlap between the measures. This information together with information about scale reliability allowed the researchers to determine which measure, or combination of measures or items were used in the final study.

When looking at the correlations between the three perfectionism scales presented in Table 11, the composite of the MPS Maladaptive Factors and the AMPS Maladaptive Factors had the strongest correlation ( $r = .71, p < .01$ ). The composites of the MPS Adaptive Factors and the AMPS Adaptive Factors also had a significant positive relationship ( $r = .49, p < .01$ ). The APS and the AMPS-Maladaptive Factors also had a strong positive relationship ( $r = .70, p < .01$ ). However, contrary to what one would expect from these measures, the MPS Adaptive Factors and the AMPS Maladaptive

Factors were significantly positively related ( $r = .21, p < .01$ ). MPS-Maladaptive Factors had a significant positive relationship with Perceived Stress ( $r = .54, p < .01$ ), and Burnout ( $r = .51, p < .01$ ); and a significant negative relationship with Recommending the Company ( $r = -.20, p < .01$ ), and overall job satisfaction ( $r = -.17, p < .05$ ). The MPS Adaptive Factors also had significant correlations with Regulatory Focus Promotion ( $r = .45, p < .01$ ). AMPS-Maladaptive Factors had a significant positive relationship with Perceived Stress ( $r = .60, p < .01$ ), and Burnout ( $r = .48, p < .01$ ); and a significant negative relationship with Recommending the Company ( $r = -.20, p < .01$ ), and overall job satisfaction ( $r = -.15, p < .05$ ). The MPS Adaptive Factors also had significant correlations with Regulatory Focus Promotion ( $r = .45, p < .01$ ) and Workaholism ( $r = .29, p < .01$ ) while the AMPS Adaptive Factors had significant correlations with Regulatory Focus Promotion ( $r = .47, p < .01$ ), overall job satisfaction ( $r = .19, p < .01$ ) and Workaholism ( $r = .27, p < .01$ ). These correlations are shown in Table 11. Table 12 shows the correlations between the subscales of the perfectionism measures, which indicates that the more adaptive subscales from the MPS (Personal Standards and Organization), APS (Standards and Organization), and AMPS (Contingent Self-Esteem and Compulsiveness) are positively related, and the maladaptive subscales (Concern Over Mistakes, Doubts About Actions, Parental Criticism, and Parental Expectations from the MPS; Discrepancy from APS, Sensitivity to Mistakes and Need for Admiration from the AMPS) are related.

Table 11

*Correlations Between All Measures (N= 183)*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. MPS-Mal	1.00												
2. MPS-Ad	.086	1.00											
3. APS-R	.62**	.41**	1.00										
4. AMPS-Mal	.71**	.21**	.70**	1.00									
5. AMPS-Ad	-.15*	.49**	.04	-.07	1.00								
6. RF-Promo	-.08	.45**	.15*	-.01	.47**	1.00							
7. RF-Prev	.40**	.07	.41**	.51**	.06	.036	1.00						
8. PSS	.54**	-.03	.56**	.60**	-.12	-.17*	.50**	1.00					
9. Burnout	.51**	-.01	.38**	.48**	-.14	-.15*	.49**	.65**	1.00				
10. Stay	.01	.06	.07	.033	.00	.14	-.01	-.07	-.20**	1.00			
11. Recommend	-.20**	.09	-.04	-.20**	.13	.28**	-.17*	-.25**	-.48**	.25**	1.00		
12. Overall	-.17*	.04	-.02	-.15*	.19**	.38**	-.03	-.27**	-.46**	.30**	.72**	1.00	

13. Workaholism	.04	.29**	.17*	.12	.27**	.42**	.17*	-.07	-.10	.24**	.36**	.47**	1.00
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*Note.* MPS-Mal: Multidimensional Perfectionism Scale Maladaptive Factors; MPS-Ad: Multidimensional Perfectionism Scale Adaptive Factors

APS-R: Almost Perfect Scale- Revised; AMPS-Mal: Adaptive/Maladaptive Perfectionism Scale Maladaptive Factors; AMPS-Ad:

Adaptive/Maladaptive Perfectionism Scale Adaptive Factors; RF-Promo = Regulatory Focus Promotion; RF-Prev = Regulatory Focus Prevention

PSS: Perceived Stress Scale; Stay = I expect to work for this company X more years; Recommend = I would recommend my company as a great

place to work; Overall = Considering everything, how satisfied are you with your job?; Work= Workaholism.

\*  $p < .05$

\*\*  $p < .01$

Table 12

*Correlations Between Perfectionism Measure Subscales (N= 183)*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. MPS-CM	1.00												
2. MPS-PS	.44**	1.00											
3. MPS-PE	.39**	.32**	1.00										
4. MPS-PC	.36**	.02	.60**	1.00									
5. MPS-DA	.52**	-.02	.21**	.41**	1.00								
6. MPS-ORG	-.12	.22**	-.08	-.19*	-.16*	1.00							
7. APS-STND	.27**	.63**	.18*	-.09	-.09	.33**	1.00						
8. APS-DSC	.62**	.19*	.27**	.49**	.69**	-.08	.09	1.00					
9. APS-ORD	-.08	.19**	-.02	-.08	-.12	.87**	.34**	-.07	1.00				
10. AMPS-SM	.74**	.26**	.33**	.42**	.57**	-.03	.16*	.72**	-.04	1.00			
11. AMPS-CE	-.37**	.07	-.12	-.37**	-.42**	.29**	.19*	-.51**	.20**	-.45**	1.00		
12. AMPS-COMP	.18*	.20**	.11	.07	.22**	.54**	.21*	.24**	.60**	.27**	-.01	1.00	
13. AMPS-NADM	.53**	.35**	.36**	.21**	.28**	.03	.33**	.43**	.02	.52**	-.11	.17*	1.00

*Note.* MPS: Multidimensional Perfectionism Scale; APS-R: Almost Perfect Scale- Revised; AMPS: Adaptive/Maladaptive Perfectionism Scale. Subscales represented: MPS-CM: Concern Over Mistakes; MPS- PS: Personal Standards; MPS- PE: Parental Expectations; MPS-PC: Parental Criticism; MPS-DA: Doubts About Actions; MPS-ORG: Organization; APS-STND: Standards; APS-DSC: Discrepancy; APS-ORD: Order; AMPS-SM: Sensitivity to Mistakes; AMPS-CE: Contingent Self-Esteem; AMPS-COMP: Compulsiveness; AMPS-NADM: Need for Admiration.

\*  $p < .05$

\*\*  $p < .01$



The correlations of similar subscales across the different measures are strong. For example, the correlation between AMPS Sensitivity to Mistakes and MPS Concern Over Mistakes was positive and strong ( $r = .74, p < .01$ ), as was the correlation between MPS Personal Standards and APS Standards ( $r = .63, p < .01$ ); and MPS Doubts About Actions and APS Discrepancy ( $r = .69, p < .01$ ). These results support the results of previous studies indicated the relatedness of these perfectionism measures.

Within the results that follow based on each hypothesis, relevant correlations are highlighted where applicable from Tables 13-15. Tables 13-15 showcase the correlations of each perfectionism measure and subscales with the broad individual difference measures and outcome measures. Table 13 allows the reader to see how the subscales of each perfectionism measure were related to the outcome variables of stress, burnout, and job satisfaction. Table 14 shows the correlations between the MPS and the individual difference variables of workaholism, personality, and regulatory focus; and Table 15 shows the correlations between the APS-R and AMPS and the individual difference variables of workaholism, personality, and regulatory focus.

Table 13

*Correlations Between Perfectionism Measure Subscales and Outcome Variables (N= 183)*

	1	2	3	4	5	6	7	8	9	10	11
1. MPS-CM	1.0										
2. MPS-PS	.44**	1.0									
3. MPS-PE	.39**	.32**	1.0								
4. MPS-PC	.36**	.02	.60**	1.0							
5. MPS-DA	.52**	-.02	.21**	.41**	1.0						
6. MPS-ORG	-.12	.22**	-.08	-.19*	-.16*	1.0					
7. PSS	.47**	.03	.29**	.34**	.57**	-.08	1.0				
8. Burnout	.39**	.09	.33**	.39**	.43**	-.10	.67*	1.0			
9. Stay	.03	.07	.04	.02	-.09	.03	-.07	-.20**	1.0		
10. Recommend	-.18*	-.03	-.14	-.11	-.17*	.18*	-.26	-.48**	.25**	1.0	
11. Overall	-.15*	-.06	-.11	-.11	-.14	.12	-.28	-.46**	.29**	.72**	1.0

Table 13 Continued:

	1	2	3	4	5	6	7	8	9	10	11
12. APS-STND	.27**	.63**	.17*	-.09	-.09	.33**	-.02	-.05	.11	.13	.13
13. APS-DSC	.62**	.19*	.26**	.49**	.69**	-.08	.68**	.49**	.00	-.13	-.11
14. APS-ORD	-.08	.19**	-.02	-.08	-.12	.87**	-.14	-.14	.14	.14	.17*
15. AMPS-SM	.74**	.26**	.33**	.42**	.57**	-.03	.65**	.47**	.06	-.19*	-.17*
16. AMPS-CE	-.37**	.07	-.12	-.37**	-.42**	.29**	-.34**	-.29**	-.07	.18*	.22**
17. AMPS-	.18*	.20**	.11	.07	.22**	.54**	.16*	.10	.09	.00	.07
COMP											
18. AMPS-	.53**	.35**	.36**	.21**	.28**	.03	.33**	.04**	-.18	-.08*	-.33
NADM											

Table 13 Continued:

	12	13	14	15	16	17	18
12. APS-STND	1.00						
13. APS-DSC	.085	1.00					
14. APS-ORD	.338**	-.073	1.00				
15. AMPS-SM	.159*	.719**	-.044	1.00			
16. AMPS-CE	.188*	-.505**	.200**	-.447**	1.00		
17. AMPS-COMP	.209*	.236**	.597**	.269**	-.013	1.00	
18. AMPS-NADM	.329**	.432**	.018	.516**	-.114	.172*	1.00

*Note.* MPS: Multidimensional Perfectionism Scale; Subscales MPS-CM: Concern Over Mistakes; MPS- PS: Personal Standards; MPS- PE: Parental Expectations; MPS-PC: Parental Criticism; MPS-DA: Doubts About Actions; MPS-ORG: Organization; PSS: Perceived Stress Scale; Stay = I expect to work for this company X more years; Recommend = I would recommend my company as a great place to work; Overall = Considering everything, how satisfied are you with your job?. APS-STND: Standards; APS-DSC: Discrepancy; APS-ORD: Order; AMPS-SM: Sensitivity to Mistakes; AMPS-CE: Contingent Self-Esteem; AMPS-COMP: Compulsiveness; AMPS-NADM: Need for Admiration.

\*  $p < .05$

\*\*  $p < .01$

Table 14

*Correlations Between Multidimensional Perfectionism Scale and Individual Difference Variables (N= 183)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MPS-CM	1.00													
2. MPS-PS	.44**	1.00												
3. MPS-PE	.39**	.32**	1.00											
4. MPS-PC	.36**	.02	.60**	1.00										
5. MPS-DA	.52**	-.02	.21**	.41**	1.00									
6. MPS-ORG	-.12	.22**	-.08	-.19*	-.16*	1.00								
7. Joy	-.21**	-.02	-.04	-.12	-.23**	.16*	1.00							
8. Drive	.36**	.38**	.18*	.12	.15*	.21**	.13	1.00						
9. RF Prev	.40**	.02	.19**	.20**	.39**	.08	.03	.25**	1.00					
10. RF Promo	-.00	.37**	-.03	-.14	-.13	.34**	.31**	.32**	.04	1.00				
11. Prev-Work	.41**	.05	.12	.20**	.37**	.06	.02	.24**	.91**	.05	1.00			
12. Prev-General	.30**	-.01	.23**	.17*	.33**	.09	.03	.21**	.88**	.01	.61**	1.00		
13. Promo-Work	.01	.28**	-.03	-.12	-.12	.26**	.43**	.34**	.08	.89**	.09	.04	1.00	
14. Promo- General	-.02	.38**	-.03	-.12	-.12	.33**	.10	.22**	-.01	.87**	-.01	-.02	.53*	1.00

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
15. N/Es	-.41**	-.07	-.23**	-.27**	-.56**	-.05	.32**	-.16*	-.52**	.14	-.48**	-.45**	.17*	.07
16. Ex	-.13	.12	.02	-.03	-.23**	.14	.15*	.07	-.21**	.29**	-.18*	-.19**	.27**	.23**
17. Op	-.04	.34**	.05	-.09	-.21**	.04	.01	.17*	-.07	.28**	-.09	-.04	.14	.37**
18. Ag	-.16*	.10	-.03	-.05	-.25**	.25**	.11	.11	-.07	.32**	-.10	-.01	.26**	.30**
19. Cons	-.16*	.30**	-.08	-.20**	-.32**	.71**	.14	.25**	-.14	.37**	-.17*	-.08	.31**	.35**

Table 14 Continued:

	15	16	17	18	19
15. N/Es	1.00				
16. Ex	.29**	1.00			
17. Op	.13	.27**	1.00		
18. Ag	.11	.25**	.36**	1.00	
19. Cons	.20**	.30**	.21**	.34**	1.00

*Note.* MPS: Multidimensional Perfectionism Scale; Subscales represented: MPS-CM: Concern Over Mistakes; MPS- PS: Personal Standards; MPS- PE: Parental Expectations; MPS-PC: Parental Criticism; MPS-DA: Doubts About Actions; MPS-ORG: Organization; Joy: Workaholism-Enjoyment; Drive: Workaholism Drive; RF Prev: Regulatory Focus Prevention; RF Promo: Regulatory Focus Promotion; Prev-Work: Regulatory Focus Prevention Work; Prev-Gen: Regulatory Focus Prevention General; Promo-Work: Regulatory Focus Promotion Work; Promo-Gen: Regulatory Focus Prevention General; N/Es: Personality-

Neuroticism/Emotional Stability; Ex: Personality- Extraversion; Op: Personality- Openness; Ag: Personality- Agreeableness; Cons: Personality- Conscientiousness.

\*  $p < .05$

\*\*  $p < .01$

Table 15

*Correlations Between APS-R and AMPS Perfectionism Measure Subscales and Individual Difference Variables (N= 183)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. APS-STND	1.00														
2. APS-DSC	.09	1.00													
3. APS-ORD	.34**	-.07	1.00												
4. AMPS-SM	.16*	.72**	-.04	1.00											
5. AMPS-CE	.19*	-.51**	.20**	-.45**	1.00										
6. AMPS-COMP	.21*	.24**	.60**	.27**	-.01	1.00									
7. AMPS-NADM	.33**	.43**	.02	.52**	-.11	.17*	1.00								
8. Joy	.06	-.18*	.17*	-.22**	.15*	.13	-.01	1.00							
9. Drive	.45**	.24**	.20**	.34**	.03	.26**	.33**	.13	1.00						
10. RF Prev	.008	.46	.03	.53**	-.16	.26**	.28**	.03	.25**	1.00					
11. RF Promo	.50**	-.09	.34**	-.08	.47**	-.18*	.13	.31**	.32**	.04	1.00				
12. Prev-Work	.02	.50**	.00	.55**	-.21**	.24**	.31**	.02	.24**	.91**	.05	1.00			
13. Prev-General	-.00	.32**	.06	.39**	-.07	.22**	.19**	.03	.21**	.88**	.01	.61**	1.00		
14. Promo-Work	.42**	-.12	.28**	-.02	.35**	.17*	.10	.43**	.34**	.88**	.01	.09	.04	1.00	
15. Promo-Gen	.45**	-.04	.31**	-.13	.47**	.16*	.13	.10	.22**	.08	.89**	-.01	-.02	.53*	1.00



Table 15 Continued:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16. N/Es	.03	-.55**	-.01	-.57**	.23**	-.27**	-.29**	.32**	-.16*	-.52**	.14	-.48**	-.45**	.17*	.07
17. Ex	.08	-.22**	.17*	-.26**	.33**	-.03	-.05	.15*	.07	-.21**	.29**	-.18*	-.19**	.27**	.23**
18. Op	.34**	-.15*	-.02	-.16*	.40**	-.16*	.05	.01	.17*	-.07	.28**	-.09	-.04	.14	.37**
19. Ag	.12	-.15	.20**	-.17*	.36**	-.00	-.08	.11	.11	-.07	.32**	-.10	-.01	.26**	.30**
20. Cons	.40	-.26**	.70**	-.17*	.29**	.46**	-.06	.14	.25**	-.14	.37**	-.17*	-.08	.31**	.35**

Table 15 Continued:

	16	17	18	19	20
16. N/Es	1.00				
17. Ex	.28**	1.00			
18. Op	.13	.27**	1.00		
19. Ag	.11	.25**	.36**	1.00	
20. Cons	.20**	.30**	.21**	.34**	1.00

*Note.* APS-STND: Standards; APS-DSC: Discrepancy; APS-ORD: Order; AMPS-SM: Sensitivity to Mistakes; AMPS-CE: Contingent Self-Esteem; AMPS-COMP: Compulsiveness; AMPS-NADM: Need for Admiration; Joy: Workaholism-Enjoyment; Drive: Workaholism Drive; RF Prev: Regulatory Focus Prevention; RF Promo: Regulatory Focus Promotion; Prev-Work: Regulatory Focus Prevention Work; Prev-Gen: Regulatory Focus Prevention General; Promo-

Work: Regulatory Focus Promotion Work; Promo-Gen: Regulatory Focus Prevention General, N/Es: Personality-Neuroticism/Emotional Stability; Ex: Personality- Extraversion; Op: Personality- Openness; Ag: Personality- Agreeableness; Cons: Personality- Conscientiousness

\*  $p < .05$

\*\*  $p < .01$

### *Hypothesis Testing*

*Hypothesis 1.* The first hypothesis is focused on the mental-health related outcome variable stress. Hypothesis 1: Adaptive perfectionists will have lower levels of mental health-related issues than Maladaptive perfectionists, specifically lower levels of stress.

The correlations between the perfectionism measures and stress displayed previously in Table 13 show that all four maladaptive MPS subscales were positively correlated with stress, Concern Over Mistakes ( $r = .47, p < .01$ ), Parental Expectations ( $r = .29, p < .01$ ) Parental Criticism ( $r = .34, p < .01$ ), and Doubts about Actions ( $r = .57, p < .01$ ). The correlations between the two adaptive perfectionism scales and stress were not significant. This pattern of correlations provides initial support for hypothesis one.

Using the MPS, participants' were classified as either adaptive or maladaptive perfectionist or neither based on the method described earlier, to yield a total of 36 (20%) Adaptive perfectionists, 44 (24%) Maladaptive perfectionists, and 103 (56%) as unclassified.

Then, a t-test was used to determine if there were differences between adaptive and maladaptive perfectionists on the means of the Perceived Stress Scale. The t-test was significant  $t(78) = -5.65, p < .05$ , indicating that the average stress level of the Adaptive perfectionists ( $M = 2.46, SD = .49$ ) was significantly lower than the average stress level of the Maladaptive perfectionists ( $M = 3.07, SD = .48$ ), with an effect size Cohen's  $d = -1.27$ , a large difference supporting Hypothesis 1.

For the Almost Perfect Scale-Revised, the maladaptive Discrepancy subscale was correlated with stress ( $r = .68, p < .01$ ). Using the APS-R method of classification described earlier, it yielded 27 Adaptive perfectionists and 39 Maladaptive perfectionists, excluding 117 from further analysis. Then, a t-test was used to determine if there were differences between adaptive and maladaptive perfectionists on the means of the Perceived Stress Scale. Similarly to the MPS results, the t-test was significant  $t(64) = -6.69, p < .05$ , indicating that the average stress level of the Adaptive perfectionists ( $M = 2.40, SD = .51$ ) was significantly lower than the average stress level of the Maladaptive perfectionists ( $M = 3.31, SD = .56$ ), with an effect size Cohen's  $d = -1.67$ , a large difference supporting Hypothesis 1.

For the Adaptive/Maladaptive Perfectionism Scale, the maladaptive factor Sensitivity to Mistakes was positively correlated with stress ( $r = .65, p < .01$ ) and the adaptive factor Contingent Self-Esteem was negatively correlated with stress ( $r = -.34, p < .01$ ), supporting hypothesis one. The adaptive factor Compulsiveness was positively correlated with stress ( $r = .16, p < .05$ ), as was the maladaptive factor Need for Admiration ( $r = .33, p < .01$ ). Therefore, of the four AMPS factors, the correlations supported hypothesis one except for the significant positive correlation between Compulsiveness and stress because Compulsiveness in this scale is meant to be adaptive.

Using the AMPS and the t-test to test this hypothesis, similar to the MPS and APS-R results, the t-test was significant  $t(98) = -5.45, p < .05$ , indicating that the average stress level of the Adaptive perfectionists ( $M = 2.64, SD = .45$ ) was significantly lower than the average stress level of the Maladaptive perfectionists ( $M = 3.20, SD = .56$ ), with an effect size Cohen's  $d = -1.10$ , a large difference, supporting hypothesis one.

Hypothesis one was supported using both correlational analyses and group comparisons and across three different measures of perfectionism.

*Hypothesis 2.* Hypothesis 2 is focused on the individual difference variables and the classifications of perfectionism. Hypothesis 2: Adaptive perfectionists will differ from Maladaptive perfectionists on personality characteristics such as regulatory focus, workaholism, and the Big Five factors of personality.

Hypothesis 2a: Adaptive perfectionists will have higher promotion regulatory focus and Maladaptive perfectionists will have higher prevention regulatory focus.

As described in the Methods section, the promotion focus indicates striving to success whereas the prevention focus indicates seeking to avoid failure, a potential key distinction in adaptive and maladaptive perfectionism. Because of this, and that the reliability of the overall prevention scale was higher than when specified as work or general, (and likewise the overall promotion scale's reliability was higher than when specified as work or general), prevention focus as a total score and promotion focus as a total score were used as the dependent variables in these results, therefore not distinguishing between generalized promotion or prevention focus and work-specific promotion or prevention focus.

The correlations between the MPS and Regulatory Focus presented earlier in Table 14, show that the Prevention overall factor was positively related to some of the MPS subscales. Prevention was positively related to the maladaptive factors of Concern Over Mistakes ( $r = .40, p < .01$ ), Parental Criticism ( $r = .20, p < .01$ ), Parental Expectations ( $r = .19, p < .01$ ) and Doubts About Actions ( $r = .39, p < .01$ ). Neither of

the adaptive subscales (Personal Standards or Organization) was related to Prevention Focus.

However, the Regulatory Focus Promotion factor was positively and significantly related to the MPS adaptive factors. Personal Standards and Organization were positively related to the Promotion overall factor ( $r = .37, p < .01$  and  $r = .34, p < .01$  respectively).

Using the MPS method of classification described for Hypothesis 1, t-tests were again used here and were mixed. The t-test for Prevention Focus was significant: Prevention Focus  $t(78) = -1.96, p < .05$ , indicating that the average prevention focus level of the Maladaptive perfectionists ( $M = 3.75, SD = .91$ ) was higher than the average prevention level of the Adaptive perfectionists ( $M = 3.33, SD = .97$ ), with an effect size Cohen's  $d = -.44$ , a small to medium difference. Also supporting the hypothesis, the t-test for Promotion Focus was significant: Promotion Focus  $t(78) = 4.63, p < .05$ , indicating that the average promotion focus level of the Adaptive perfectionists ( $M = 6.18, SD = .76$ ) was significantly higher than the Maladaptive perfectionists ( $M = 5.29, SD = .92$ ), with an effect size Cohen's  $d = 1.05$ , a large difference.

When examining the regulatory focus measure with the APS, again there were significant relationships between the maladaptive subscale, this time Discrepancy, with the prevention overall factor ( $r = .46, p < .01$ ) and significant relationships between the adaptive subscales of Standards and Order with the promotion overall factor (Standards and Promotion  $r = .50, p < .01$ ; Order and Promotion  $r = .34, p < .01$ ).

Using the APS-R classification to test the hypothesis, the results similar; both the Prevention and Promotion Focus results were significant.. The t-test for Prevention Focus

was significant: Prevention Focus  $t(64) = -3.34, p < .05$ , indicating that Maladaptive perfectionists had significantly higher prevention focus ( $M = 4.13, SD = .95$ ) than Adaptive perfectionists ( $M = 3.28, SD = 1.09$ ), with an effect size Cohen's  $d = -.84$ , a large difference. Also supporting the hypothesis, the t-test for Promotion Focus was significant: Promotion Focus  $t(64) = 1.75, p < .05$ , indicating that the average promotion focus level of the Adaptive perfectionists ( $M = 6.17, SD = .71$ ) was significantly higher than the average promotion level of the Maladaptive perfectionists ( $M = 5.84, SD = .79$ ), with an effect size Cohen's  $d = .44$ , a small to medium difference.

The correlations between regulatory focus and the AMPS show that the Promotion overall factor was related to the adaptive subscales of Contingent Self-Esteem ( $r = .47, p < .01$ ) and Compulsiveness ( $r = .19, p < .05$ ), mirroring other results with more adaptive subscales. The Prevention overall factor was significantly positively related to the maladaptive subscales of Sensitivity to Mistakes ( $r = .53, p < .01$ ), and Need for Admiration ( $r = .28, p < .01$ ), and as expected negatively related to the adaptive subscale of Contingent Self-Esteem ( $r = -.16, p < .05$ ). However, contrary to expectations, the prevention overall factor was also significantly related to the more adaptive subscale of Compulsiveness ( $r = .26, p < .01$ ).

To test the hypothesis using the AMPS method of classification described for Hypothesis 1, t-tests were again used here and indicated full support of the hypothesis. The t-test for Prevention Focus was significant: Prevention Focus  $t(98) = -3.17, p < .05$ , indicating that the average prevention focus level of the Maladaptive perfectionists ( $M = 3.87, SD = .96$ ) was significantly higher than the average prevention level of the Adaptive perfectionists ( $M = 3.28, SD = .90$ ), with an effect size Cohen's  $d = -.64$ , a medium to

large difference. Again supporting the hypothesis, the t-test for Promotion Focus was significant: Promotion Focus  $t(98) = 3.28, p < .05$ , indicating that the average promotion focus level of the Adaptive perfectionists ( $M = 5.84, SD = .78$ ) was significantly higher than the average promotion level of the Maladaptive perfectionists ( $M = 5.28, SD = .91$ ), with an effect size Cohen's  $d = .66$ , a medium difference.

Overall, results provide support for hypothesis 2a. Maladaptive subscales across the three measures were related to prevention focus, and the adaptive subscales were correlated with promotion focus. A comparison based on the categorization, again provide support for hypothesis 2a, with significant results.

Hypothesis 2b: Adaptive perfectionists will report higher enjoyment than Maladaptive perfectionists and should not differ on drive on the workaholism scale.

The correlations between the MPS and Workaholism Battery subscales show that Enjoyment is negatively and significantly related to the maladaptive factors Concern over Mistakes ( $r = -.21, p < .01$ ) and Doubts about Actions ( $r = -.23, p < .01$ ) but positively related to the adaptive factor Organization ( $r = .26, p < .05$ ). Drive correlated positively with the maladaptive Concern Over Mistakes ( $r = .36, p < .01$ ), adaptive factor Personal Standards ( $r = .38, p < .01$ ), maladaptive factors Parental Expectations ( $r = .18, p < .05$ ) and Doubts about Actions ( $r = .15, p < .05$ ), and positively with the adaptive factor Organization ( $r = .21, p < .06$ ). Interestingly, Parental Criticism from the MPS was not related to Drive or Enjoyment from the Workaholism Battery. The t-test for Drive was not significant:  $t(78) = 1.29, p = .10$ , indicating that the average drive level of the Adaptive perfectionists ( $M = 3.81, SD = .71$ ) was not significantly different than the



average drive level of the Maladaptive perfectionists ( $M = 3.61$ ,  $SD = .70$ ), supporting the hypothesis that both would have high levels of drive, a similarity intuitively and traditionally expected in both types of perfectionists. Also supporting the hypothesis, the t-test for Enjoyment was significant:  $t(78) = 3.57$ ,  $p < .05$ , indicating that the enjoyment level of the Adaptive perfectionists ( $M = 3.40$ ,  $SD = .91$ ) was significantly higher than the average enjoyment level of the Maladaptive perfectionists ( $M = 2.76$ ,  $SD = .71$ ), with an effect size Cohen's  $d = .81$ , a large difference.

Examining APS-R as the perfectionism measure Drive was positively correlated with all three subscales of the APS-R: Standards ( $r = .45$ ,  $p < .01$ ), Discrepancy ( $r = .24$ ,  $p < .01$ ), and Order ( $r = .20$ ,  $p < .01$ ). Similar to the MPS correlations with Enjoyment, The Enjoyment subscale of the Workaholism Battery was negatively correlated with Discrepancy ( $r = -.18$ ,  $p < .05$ ); but it was positively correlated with the adaptive factor Order ( $r = .17$ ,  $p < .05$ ). Testing the hypothesis, using the APS-R the results mirrored the MPS results. The t-test for Drive was not significant:  $t(64) = -1.66$ ,  $p = .05$ , indicating that the average drive level of the Adaptive perfectionists ( $M = 3.92$ ,  $SD = .83$ ) was not significantly different than the average drive level of the Maladaptive perfectionists ( $M = 4.21$ ,  $SD = .57$ ), and each were noticeably high. Also supporting the hypothesis, the t-test for Enjoyment was significant:  $t(64) = 2.47$ ,  $p < .05$ , indicating that the enjoyment level of the Adaptive perfectionists ( $M = 3.31$ ,  $SD = .96$ ) was significantly higher than the average enjoyment level of the Maladaptive perfectionists ( $M = 2.80$ ,  $SD = .73$ ), with an effect size Cohen's  $d = .62$ , a medium to large difference.

Examining the AMPS as the perfectionism measure, the maladaptive factor Sensitivity to Mistakes was related negatively to Enjoyment ( $r = -.22$ ,  $p < .01$ ), while the

adaptive factor Contingent Self-Esteem was positively related to Enjoyment ( $r = .34, p < .01$ ). The adaptive factor Contingent Self-Esteem was positively related to Enjoyment ( $r = .15, p < .01$ ), while the adaptive factor Compulsiveness and the maladaptive factor Need for Admiration were positively related to Drive ( $r = .26, p < .01$  and  $r = .33, p < .01$ , respectively). Using the AMPS to test the hypothesis, the results mimic the MPS and APS-R results. The t-test for Drive was not significant:  $t(98) = -1.39, p = .08$ , indicating that the average drive level of the Adaptive perfectionists ( $M = 3.68, SD = .73$ ) was not significantly different than the average drive level of the Maladaptive perfectionists ( $M = 3.86, SD = .60$ ). Also supporting the hypothesis, the t-test for Enjoyment was significant:  $t(98) = 2.68, p < .05$ , indicating that the enjoyment level of the Adaptive perfectionists ( $M = 3.25, SD = .92$ ) was significantly higher than the average enjoyment level of the Maladaptive perfectionists ( $M = 2.80, SD = .74$ ), with an effect size Cohen's  $d = .54$ , a medium difference.

Overall, results provide support for hypothesis 2b. Correlational analysis provides support that the Adaptive factors were positively related to Enjoyment and the maladaptive factors were negatively related to Enjoyment. A comparison based on the categorization again provides support for hypothesis 2b, with three significant results that Adaptive perfectionists were higher on Enjoyment than Maladaptive perfectionists.

Hypothesis 2c: Adaptive perfectionists will report higher Conscientiousness than Maladaptive perfectionists.

With the MPS, Conscientiousness had significant positive relationships with Personal Standards ( $r = .30, p < .01$ ) and Organization ( $r = .71, p < .01$ ), the two more adaptive factors; and negative relationships with Concern Over Mistakes ( $r = -.16, p <$

.05), Parental Criticism ( $r = -.20, p < .05$ ), and Parental Expectations ( $r = -.32, p < .01$ ). With the AMPS, Conscientiousness was positively correlated with Compulsiveness ( $r = .46, p < .01$ ) but also Contingent Self-Esteem ( $r = .29, p < .01$ ), and negatively correlated with Sensitivity to Mistakes ( $r = -.17, p < .01$ ). As expected, Conscientiousness was positively correlated with the APS-R factors of Order ( $r = .70, p < .01$ ) and Standards ( $r = .40, p < .01$ ), and negatively correlated with Discrepancy ( $r = -.27, p < .01$ ).

This hypothesis supported for each of the different measures of perfectionism. MPS:  $t(78) = 8.90, p < .05$ , indicating that Adaptive perfectionists ( $M = 4.30, SD = .44$ ) were more Conscientious than Maladaptive perfectionists ( $M = 3.37, SD = .49$ ), with an effect size Cohen's  $d = 2.02$ , a large difference. APS-R:  $t(64) = 2.13, p < .05$ , indicating that Adaptive perfectionists ( $M = 4.22, SD = .48$ ) were more Conscientious than Maladaptive perfectionists ( $M = 3.92, SD = .61$ ), with an effect size Cohen's  $d = .53$ , a medium difference. AMPS:  $t(98) = 5.80, p < .05$ , indicating that Adaptive perfectionists ( $M = 4.15, SD = .46$ ) were more Conscientious than Maladaptive perfectionists ( $M = 3.55, SD = .58$ ), with an effect size Cohen's  $d = 1.17$ , a large difference.

Overall, results provide support for hypothesis 2c. Correlational analysis provides support that the Adaptive factors were positively related to Conscientiousness and a comparison based on the categorization, again provides support for hypothesis 2c, with three significant results that Adaptive perfectionists were more Conscientious than Maladaptive perfectionists.

Hypothesis 2d: Adaptive perfectionists will report higher Agreeableness than Maladaptive perfectionists.

With the MPS, Agreeableness had a significant relationship with the maladaptive factors of Doubts About Actions ( $r = -.25, p < .01$ ), but also with Concern Over Mistakes ( $r = -.16, p < .05$ ); and a positive relationship with the adaptive factor Organization ( $r = .25, p < .01$ ). Agreeableness was positively correlated with the adaptive factor Order ( $r = .20, p < .01$ ), and negatively correlated with the maladaptive factor Discrepancy ( $r = -.15, p < .05$ ). Lastly with the AMPS, Agreeableness was positively correlated with the adaptive factor Contingent Self-Esteem ( $r = .36, p < .01$ ), and negatively correlated with the maladaptive factor Sensitivity to Mistakes ( $r = -.17, p < .05$ ).

This hypothesis was supported with t-test results from two of the perfectionism measures. MPS:  $t(78) = 2.59, p < .05$ , indicating that Adaptive perfectionists ( $M = 3.73, SD = .43$ ) were more Agreeable than Maladaptive perfectionists ( $M = 3.49, SD = .41$ ), with an effect size Cohen's  $d = .59$ , a medium difference. AMPS:  $t(98) = 3.66, p < .05$  showed that Adaptive perfectionists were more Agreeable ( $M = 3.76, SD = .32$ ) than the Maladaptive perfectionists ( $M = 3.48, SD = .44$ ), with an effect size Cohen's  $d = .74$ , a large difference.

However, when tested using the APS-R classification groups this hypothesis was not supported:  $t(64) = .734, p = .23$ , indicating no significant difference between Adaptive perfectionists ( $M = 3.72, SD = .42$ ) and Maladaptive perfectionists ( $M = 3.63, SD = .49$ ) on agreeableness.

Overall, results provide support for hypothesis 2d. Correlational analysis provides support that the Adaptive factors were positively related to Agreeableness and a comparison based on the categorization, again provides support for hypothesis 2d, with mostly significant results.

Hypothesis 2e: Maladaptive perfectionists will report higher Neuroticism/lower Emotional Stability than Adaptive perfectionists.

Examining the MPS related to the Big Five personality factors, Neuroticism/Emotional Stability (coded so that higher scores indicate Emotional Stability and less Neuroticism) was related to more maladaptive subscales, and not significantly correlated with the two adaptive scales of Personal Standards and Organization. Concern Over Mistakes ( $r = -.41, p < .01$ ), Parental Expectations ( $r = -.23, p < .01$ ), Parental Criticism ( $r = -.27, p < .01$ ), and Doubts About Actions ( $r = -.56, p < .01$ ) were all negatively correlated with Emotional Stability.

This hypothesis when tested using the MPS was supported with a significant t-test:  $t(78) = 4.25, p < .05$ , indicating that Adaptive perfectionists ( $M = 3.63, SD = .64$ ) were more Emotionally Stable than Maladaptive perfectionists ( $M = 2.98, SD = .70$ ), with an effect size Cohen's  $d = .96$ , a large difference. The correlations between APS-R subscales and personality showed Emotional Stability was negatively correlated with Discrepancy ( $r = -.55, p < .01$ ). This hypothesis when tested using the APS-R was supported with a significant t-test:  $t(64) = 6.17, p < .05$ , indicating that Adaptive perfectionists ( $M = 3.64, SD = .88$ ) were more Emotionally Stable than Maladaptive perfectionists ( $M = 2.57, SD = .80$ ), with an effect size Cohen's  $d = 1.54$ , a large difference.

Using the AMPS, Emotional Stability was positively correlated with Contingent Self-Esteem ( $r = .23, p < .01$ ), and negatively correlated with Sensitivity to Mistakes ( $r = -.57, p < .01$ ), Compulsiveness ( $r = -.27, p < .01$ ), and Need for Admiration ( $r = -.29, p < .01$ ). Again, the AMPS results supported the hypothesis  $t(98) = 3.54, p < .05$ , indicating

that Adaptive perfectionists ( $M = 3.38$ ,  $SD = .72$ ) were more Emotionally Stable than Maladaptive perfectionists ( $M = 2.84$ ,  $SD = .80$ ), with an effect size Cohen's  $d = .78$ , a medium difference.

Overall, results provide support for hypothesis 2e. Correlational analysis provides support that in general the Adaptive factors were positively related to Emotional Stability and a comparison based on the categorization again provides support for hypothesis 2e, with three significant results that Adaptive perfectionists were more Emotionally Stable than Maladaptive perfectionists.

*Hypothesis 3.* Adaptive perfectionists will differ from Maladaptive perfectionists on job-related outcome variables.

Hypothesis 3a: Adaptive perfectionists will have higher overall job performance scores than Maladaptive perfectionists. (This hypothesis was untested in Study One and was tested only in Study Two).

Hypothesis 3b: Adaptive perfectionists will report longer intentions to stay with their company than Maladaptive perfectionists.

Correlational analyses did not show the relationship of the Adaptive factors of the three perfectionism measures to be positively significantly correlated with intentions to stay at the company from any of the three perfectionism measures.

This hypothesis was supported using the MPS classifications  $t(78) = 1.876$ ,  $p < .05$ , such that Adaptive perfectionists ( $M = 2.72$ ,  $SD = 1.09$ ) were more likely to report intentions of staying with the company longer than Maladaptive perfectionists ( $M = 2.29$ ,  $SD = .97$ ), with an effect size Cohen's  $d = .42$ , a small to medium difference. This hypothesis was not supported using the APS-R classifications  $t(62) = 1.22$ ,  $p = .11$ , but

could be due to range restriction and that these employers are not usually their long-term future professional employers. Similarly, using the AMPS this hypothesis was not supported  $t(93) = -.456, p = .32$ .

Overall, results provide support for hypothesis 3b only using the MPS, but not with the other measures. Correlational analysis was not significant in showing support that the Adaptive factors were positively related to intentions to stay with the company.

Hypothesis 3c: Adaptive perfectionists will report that they will recommend their organization as a great place to work more than Maladaptive perfectionists.

Using the MPS, the Organization subscale was positively correlated with recommending an employer as a great place to work ( $r = .18, p < .05$ ). In the maladaptive MPS subscales, Concern Over Mistakes was negatively correlated with recommending an employer as a great place to work ( $r = -.18, p < .05$ ), and Doubts about Actions was negatively correlated with recommending an employer as a great place to work ( $r = -.17, p < .05$ ).

This hypothesis when tested using the MPS was supported with a significant t-test:  $t(78) = 3.30, p < .05$ , indicating that Adaptive perfectionists ( $M = 4.14, SD = .83$ ) were more likely to recommend their company as a great place to work than Maladaptive perfectionists ( $M = 3.43, SD = 1.04$ ) on this item, with an effect size Cohen's  $d = .74$ , a medium difference. When tested with the APS-R, this hypothesis was not supported  $t(63) = 1.49, p = .07$ .

For the Adaptive/Maladaptive Perfectionism Scale, the maladaptive factors Sensitivity to Mistakes ( $r = -.19, p < .05$ ) and Need for Admiration ( $r = -.18, p < .05$ ) were negatively correlated with recommending an employer as a great place to work

while the adaptive factor Contingent Self-Esteem was positively correlated with recommending an employer as a great place to work ( $r = .19, p < .05$ ). Additionally, when tested with the AMPS classifications, this hypothesis was supported  $t(97) = 2.81, p < .05$ , with Adaptive perfectionists ( $M = 4.04, SD = .90$ ) more likely to recommend their company as a great place to work than Maladaptive perfectionists ( $M = 3.49, SD = 1.05$ ), with an effect size Cohen's  $d = .57$ , a medium difference.

Overall, results provide support for hypothesis 3c. Correlational analysis provides support that in general the Adaptive factors were positively related to recommending the company as a great place to work and a comparison based on the categorization again provides support for hypothesis 3c, with two significant results that Adaptive perfectionists were more likely to recommend their company as a great place to work than Maladaptive perfectionists.

Hypothesis 3d: Adaptive perfectionists will report higher overall job satisfaction than Maladaptive perfectionists.

In the maladaptive MPS subscales, only the maladaptive factor Concern Over Mistakes was significantly negatively correlated with the overall job satisfaction item ( $r = -.15, p < .05$ ). This hypothesis when tested using the MPS was supported with a significant t-test:  $t(78) = 3.10, p < .05$ , indicating that Adaptive perfectionists ( $M = 4.11, SD = .79$ ) were more likely to be overall satisfied with their jobs than Maladaptive perfectionists ( $M = 3.48, SD = 1.00$ ) on this item, with an effect size Cohen's  $d = .70$ , a medium difference.

For the Almost Perfect Scale-Revised, the Adaptive subscale of Order was correlated positively with the overall job satisfaction item ( $r = .17, p < .05$ ). When tested



with the APS-R classification, this hypothesis was also supported  $t(64) = 1.63, p < .05$ , indicating that Adaptive perfectionists ( $M = 4.00, SD = .88$ ) were more likely to be overall satisfied with their jobs than Maladaptive perfectionists ( $M = 3.62, SD = .99$ ) on this item, with an effect size Cohen's  $d = .40$ , a small to medium difference.

For the Adaptive/Maladaptive Perfectionism Scale, the maladaptive factor Sensitivity to Mistakes was negatively correlated with overall job satisfaction ( $r = -.17, p < .05$ ) while the adaptive factor Contingent Self-Esteem was positively correlated with overall job satisfaction ( $r = .22, p < .01$ ). When tested using the AMPS classifications, the hypothesis was supported,  $t(98) = 2.86, p < .05$ , indicating that Adaptive perfectionists ( $M = 4.00, SD = .92$ ) were more likely to be overall satisfied with their jobs than Maladaptive perfectionists ( $M = 3.44, SD = 1.02$ ), with an effect size Cohen's  $d = .58$ , a small to medium difference.

Overall, results provide support for hypothesis 3d. Correlational analysis provides support that in general the Adaptive factors were positively related to overall job satisfaction and Maladaptive factors were negatively related to overall job satisfaction. The comparison based on the categorization, again provides support for hypothesis 3d, with three significant results that Adaptive perfectionists were more satisfied overall in their jobs than Maladaptive perfectionists.

Hypothesis 3e: Adaptive perfectionists will report less burnout than Maladaptive perfectionists.

All the maladaptive MPS subscales were positively correlated with burnout, Concern Over Mistakes ( $r = .40, p < .01$ ), Parental Expectations ( $r = .33, p < .01$ ), Parental Criticism (PC  $r = .40, p < .01$ ), and Doubts about Actions ( $r = .43, p < .01$ ),

This hypothesis when tested using the MPS classifications was supported with a significant t-test:  $t(78) = -4.79, p < .05$ , indicating that Adaptive perfectionists ( $M = 2.48, SD = .81$ ) were less likely to experience burnout than Maladaptive perfectionists ( $M = 3.51, SD = 1.06$ ), with an effect size Cohen's  $d = -1.08$ , a large difference.

For the Almost Perfect Scale-Revised, the maladaptive Discrepancy subscale was correlated with burnout ( $r = .49, p < .01$ ). Again, this hypothesis when tested using the APS-R was supported with a significant t-test:  $t(64) = -4.51, p < .05$ , indicating that Adaptive perfectionists ( $M = 2.44, SD = 1.02$ ) were less likely to experience burnout than Maladaptive perfectionists ( $M = 3.61, SD = 1.05$ ), with an effect size Cohen's  $d = -1.13$ , a large difference.

For the Adaptive/Maladaptive Perfectionism Scale, the maladaptive factor Sensitivity to Mistakes ( $r = .47, p < .01$ ) and Need for Admiration were correlated positively with burnout ( $r = .39, p < .01$ ), while the adaptive factor Contingent Self-Esteem was negatively correlated with burnout ( $r = -.29, p < .01$ ). Using the AMPS classification this hypothesis was also supported with a significant t-test:  $t(98) = -4.57, p < .05$ , indicating that Adaptive perfectionists ( $M = 2.64, SD = .96$ ) were less likely to experience burnout than Maladaptive perfectionists ( $M = 3.56, SD = 1.05$ ), with an effect size Cohen's  $d = -.92$ , a large difference.

Overall, results provide support for hypothesis 3e. Correlational analysis provides support that in general the Adaptive factors were negatively related to burnout and Maladaptive factors were positively related to burnout. The comparison based on the categorization again provides support for hypothesis 3e, with three significant results that Adaptive perfectionists reported less burnout than Maladaptive perfectionists.

To examine the mediators of stress and burnout in hypothesis four, multiple regression was used to determine if the more complex relationships were present. Stress and burnout were examined as possible mediators between perfectionism and job satisfaction.

*Hypothesis 4.* Stress and burnout will mediate the relationship between maladaptive perfectionism and the outcomes of job performance and job satisfaction.

Hypothesis 4a: Stress will mediate the relationship between maladaptive perfectionism and job performance. This hypothesis was untested in Study One and was only tested in Study Two.

Hypothesis 4b: Stress will mediate the relationship between maladaptive perfectionism and job satisfaction.

Hypothesis 4b was tested by following the Baron and Kenny method (Kenny, 2006) using a series of multiple regression equations with the results of classifications from the MPS, APS-R and the AMPS. All participants were included, not just the maladaptive perfectionists, as the hypothesis was related to levels of maladaptive perfectionism, not classification.

The hypothesis was tested with all three perfectionism measures, and the same process was followed each time. The first assumption of mediation is that there are significant correlations between the three variables. Then, each step is conducted to show independent relationships, followed by conducting a hierarchical regression to determine the impact of the mediator. In each series that follows, Step 1 was to show a significant relationship between the independent variable (perfectionism) and the dependent variable (job satisfaction). Step 2 was conducted to show a significant

relationship between the independent variable and the mediator (stress). Step 3 was conducted to show the significant relationship between the mediator and the dependent variable. Finally in Step 4 a regression was performed of the independent variable (maladaptive perfectionism) on the dependent variable (job satisfaction), controlling for the mediator (stress). Full mediation is occurring when the final relationship is not significant.

Because the hypothesis focused on maladaptive perfectionism, a combined maladaptive factor (of the maladaptive subscales together), and each maladaptive subscale individually were tested. This led to a lengthy process which was repeated for each of the three perfectionism measures. They are described together, with results presented in tables where appropriate.

In hypothesis 4b, the first assumption of single relationships between the three variables was partially met: stress and overall job satisfaction were significantly negatively correlated ( $r = -.28, p < .01$ ), stress and some subscales of maladaptive perfectionism were significantly correlated (see Table 13 for MPS subscale and stress correlations and stress with APS Discrepancy), and job satisfaction and maladaptive perfectionism were only significantly correlated with one of the maladaptive subscales, MPS Concern Over Mistakes (see Table 13 for positive subscale correlations).

In step 1, the regressions for the subscales of MPS Concern Over Mistakes, Doubts About Actions, Parental Expectations and Parental Criticism are shown in Table 16, indicating that the MPS Concern Over Mistakes, the combination of all four of the MPS maladaptive subscales together, AMPS maladaptive subscales, and AMPS Sensitivity to Mistakes were significant, which was expected from the correlations.

In Step 2 the correlations indicated the four maladaptive MPS subscales were correlated with stress, along with the maladaptive subscale Discrepancy from the APS, the AMPS combined maladaptive factor, and the AMPS Sensitivity to Mistakes. Additionally, the composite maladaptive perfectionism variable of the AMPS and MPS measures were also tested and are displayed in Table 16, showing what is expected from the correlations. The individual regression equations from combined maladaptive factor from the MPS, MPS Concern Over Mistakes, MPS Parental Criticism, MPS Parental Expectations, MPS Doubts About Actions, APS Discrepancy, AMPS Sensitivity to Mistakes, and AMPS full maladaptive factor were all significant.

In step 3, a significant negative relationship between stress and overall job satisfaction was found and is displayed in Table 16. In step 4, the hierarchical regression was conducted of maladaptive perfectionism on job satisfaction, controlling for stress. The method used determines full mediation and if the relationship is not significant. To meet these conditions completely only the perfectionism subscales that were significant in step 1 and 2 were used in step 4. Therefore, step 4 was conducted for the combined MPS Maladaptive factor, the MPS Concerns Over Mistakes subscale, AMPS Maladaptive factor, and the AMPS Sensitivity to Mistakes subscale. The results indicated that because the beta of step b (see table 16) was not significant in the final step, full mediation was supported for Maladaptive perfectionism as a composite, MPS Concern Over Mistakes alone, AMPS Maladaptive perfectionism as a composite, and AMPS Sensitivity to Mistakes alone.

Table 16

*Regression Results To Test For Mediation Between Maladaptive Perfectionism and Job Satisfaction with Stress. (N= 183)*

Variable	R	R <sup>2</sup>	B	SE B	$\beta$
Step 1: A relationship exists between maladaptive perfectionism and job satisfaction					
MPS Maladaptive perfectionism on job satisfaction	.169*	.029	-.014	.006	-.169
MPS Concern Over Mistakes on job satisfaction	.149*	.022	-.229	.113	-.149
MPS Parental Expectations on job satisfaction	.106	.011	-.125	.088	-.106
MPS Parental Criticism on job satisfaction	.105	.011	-.128	.090	-.105
MPS Doubts About Actions on job satisfaction	.139	.019	-.171	.091	-.139
APS- R Discrepancy on job satisfaction	.109	.012	-.084	.057	-.109
AMPS Sensitivity to Mistakes on job satisfaction	.166*	.027	-.295	.130	-.166
AMPS Need for Admiration on job satisfaction	.085	.007	-.133	.116	-.085
AMPS Maladaptive Perfectionism on job satisfaction	.148*	.022	-.021	.011	-.148
Step 2: A relationship exists between maladaptive perfectionism and stress					
MPS Maladaptive perfectionism on stress	.548**	.300	.025	.003	.548
MPS Concern Over Mistakes on stress	.469**	.220	.415	.058	.469
MPS Parental Expectations on stress	.287**	.082	.196	.049	.287
MPS Parental Criticism on stress	.338**	.114	.237	.049	.338
MPS Doubts About Actions on stress	.556**	.320	.401	.043	.566
APS- R Discrepancy on stress	.679**	.461	.302	.024	.679
AMPS Sensitivity to Mistakes on stress	.647**	.419	.663	.058	.647
AMPS Need for Admiration on stress	.333**	.111	.301	.063	.333
AMPS Maladaptive Perfectionism on stress	.602**	.362	.050	.005	.602
Step 3: A relationship exists between stress and job satisfaction					

Variable	R	R <sup>2</sup>	B	SE B	β
Stress on job satisfaction	.281**	.079	-.488	.124	-.281
Step 4: Hierarchical regression of a) stress on job satisfaction and b) with the addition of maladaptive perfectionism					
Step a: stress on job satisfaction	.281**	.079	-.488	.124	-.281
Step b: addition of Maladaptive perfectionism	.281**	.079	-.002	.007	-.022 (Sig = .796)
Step a: stress on job satisfaction	.281**	.079	-.488	.124	-.281
Step b: addition of MPS Concern Over Mistakes	.282**	.079	-.034	.124	-.022 (Sig = .784)
Step a: stress on job satisfaction	.281**	.079	-.488	.124	-.281
Step b: addition of AMPS Sensitivity to Mistakes	.282**	.079	.049	.167	.028 (Sig = .768)
Step a: stress on job satisfaction	.281**	.079	-.488	.124	-.281
Step b: addition of AMPS Maladaptive Perfectionism	.282**	.080	.005	.013	.033 (Sig = .713)

*Notes.*

\*  $p < .05$

\*\*  $p < .01$

For ease of display, each step from 1-3 is not a hierarchical regression, rather it represents the steps using the Barron and Kenny (Kenny, 2006) method of separate regressions. Step 4 does include a hierarchical regression, controlling for stress as a separate step in the regression analysis.

Hypothesis 4c: Burnout will mediate the relationship between maladaptive perfectionism and job performance. This hypothesis is untested in Study One and will only be tested in Study Two.

Hypothesis 4d: Burnout will mediate the relationship between maladaptive perfectionism and job satisfaction.

This hypothesis was tested in the same way as Hypothesis 4b following the Baron and Kenny method (Kenny, 2006). The first assumption of single relationships between the three variables was partially met: burnout and overall job satisfaction were significantly negatively correlated ( $r = -.46, p < .01$ ), burnout and some subscales of maladaptive perfectionism were significantly correlated (see Table 13 for MPS subscale and burnout correlations and burnout with APS Discrepancy), and job satisfaction and maladaptive perfectionism were only significantly correlated with one of the maladaptive subscales, MPS Concern Over Mistakes (see Table 13 for positive subscale correlations).

In Step 1 the regressions for the subscales of MPS Concern Over Mistakes, Doubts About Actions, Parental Expectations and Parental Criticism are shown in Table 17, indicating that the MPS Concern Over Mistakes and the combination of all four of the MPS maladaptive subscales together were significant. Additionally, both AMPS maladaptive subscales (Sensitivity to Mistakes and Need for Admiration) and the AMPS Maladaptive combined factor were significant.

In Step 2 the correlations indicated the four maladaptive MPS subscales were correlated with burnout, along with the maladaptive subscale Discrepancy from the APS, both AMPS subscales, and the AMPS Maladaptive factor. Additionally, the combined



variable of these scales was also tested and is displayed in Table 17, showing what was expected from the correlations. The individual regression equations from the combined maladaptive factor from the MPS, MPS Concern Over Mistakes, MPS Parental Criticism, MPS Parental Expectations, MPS Doubts About Actions, and APS Discrepancy were all significant.

In Step 3 a significant negative relationship between burnout and job satisfaction is shown in Table 17. In Step 4, the regression of maladaptive perfectionism on job satisfaction, controlling for burnout was conducted separately with the combined MPS Maladaptive factor, MPS Concerns Over Mistakes, AMPS Sensitivity to Mistakes, AMPS Need for Admiration, and AMPS Maladaptive factor which met the conditions of step 1 and 2. Results in Table 17 show that burnout is a full mediator of these five relationships.

Table 17

*Regression Results To Test for Mediation Between Maladaptive Perfectionism and Job Satisfaction with Burnout. (N= 183)*

Variable	R	R <sup>2</sup>	B	SE B	$\beta$
Step 1: A relationship exists between maladaptive perfectionism and job satisfaction					
Maladaptive perfectionism on job satisfaction	.169*	.029	-.014	.006	-.169
MPS Concern Over Mistakes on job satisfaction	.149*	.022	-.229	.113	-.149
MPS Parental Expectations on job satisfaction	.106	.011	-.125	.088	-.106
MPS Parental Criticism on job satisfaction	.105	.011	-.128	.090	-.105
MPS Doubts About Actions on job satisfaction	.139	.019	-.171	.091	-.139
APS- R Discrepancy on job satisfaction	.109	.012	-.084	.057	-.109
AMPS Sensitivity to Mistakes on job satisfaction	.166*	.027	-.295	.130	-.166
AMPS Need for Admiration on job satisfaction	.085	.007	-.133	.116	-.085
AMPS Maladaptive Perfectionism on job satisfaction	.148*	.022	-.021	.011	-.148
Step 2: A relationship exists between maladaptive perfectionism and burnout					
Maladaptive perfectionism on burnout	.507**	.257	.047	.006	.507
MPS Concern Over Mistakes on burnout	.389**	.151	.686	.121	.389
MPS Parental Expectations on burnout	.331**	.109	.450	.095	.331
MPS Parental Criticism on burnout	.392**	.154	.549	.096	.392
MPS Doubts About Actions on burnout	.431**	.186	.609	.095	.431
APS- R Discrepancy on burnout	.489**	.239	.434	.058	.489
AMPS Sensitivity to Mistakes on burnout	.471	.222	.961	.134	.471
AMPS Need for Admiration on burnout	.389	.151	.699	.123	.389
AMPS Maladaptive Perfectionism on burnout	.507	.257	.047	.006	.507
Step 3: A relationship exists between burnout and job satisfaction					
Burnout on job satisfaction	.460**	.212	-.401	.057	-.460

Variable	R	R <sup>2</sup>	B	SE B	$\beta$
Step 4: Hierarchical regression of a) burnout alone and b) with the addition of maladaptive perfectionism					
Step a: burnout and job satisfaction	.460**	.212	-.401	.057	-.460
Step b: addition of Maladaptive perfectionism	.466**	.217	.007	.006	.087 (Sig = .260)
Step a: burnout and job satisfaction	.460**	.212	-.401	.057	-.460
Step b: addition of Concern Over Mistakes	.462**	.213	.054	.110	.035 (Sig = .622)
Step a: burnout and job satisfaction	.460**	.212	-.401	.057	-.460
Step b: addition of AMPS Sensitivity to Mistakes	.464**	.215	.116	.133	.065 (Sig = .383)
Step a: burnout and job satisfaction	.460**	.212	-.401	.057	-.460
Step b: addition of AMPS Need for Admiration	.472**	.222	.174	.112	.111 (Sig = .122)
Step a: burnout and job satisfaction	.460**	.212	-.401	.057	-.460
Step b: addition of AMPS Maladaptive perfectionism	.468**	.219	.014	.011	.096 (Sig = .202)

*Notes.*

\*  $p < .05$

\*\*  $p < .01$

For ease of display, each step from 1-3 is not a hierarchical regression, rather it represents the steps using the Barron and Kenny (Kenny, 2006) method of separate regressions. Step 4 does include a hierarchical regression, controlling for burnout as a separate step in the regression analysis.

*Factor Analysis.* Lastly, though the upper end of the range of 200-300 participants was not reached, factor analyses were conducted in an exploratory manner to determine if the results were similar to the published measures' structures. After conducting a principal components analysis using the MPS items, four factors had Eigenvalues above 2.0, and an additional four factors had Eigenvalues above 1.0. However when looking at the scree plot, between four and six factors would be a better fit, roughly matching up to the original six-factor structure of the MPS, but these were not meaningful or interpretable factors when examining the item distribution. Additionally, because the MPS has historically been used as a six-factor measure and used successfully, and the reliability analyses for each of the six factors were sound, the six-factor structure was pursued and the research was conducted using the original six-factor structure.

After conducting a principal components analysis on the APS, the scree plot appeared to support a three factor solution, with all factors having Eigenvalues above 1.0 and the items mapping clearly to the original factor structure of the measure.

After conducting a principal components analysis using the AMPS items, four factors seemed to have the best fit and accounted for 46% of the variance, and roughly matched structure with the original AMPS factors.

Part of the goal of Study One was to determine which perfectionism measure would be used in Study Two. By examining the pattern of results from Study One, the MPS measure clearly is the most effective measure. The MPS measure is also very robust psychometrically, and it has a factor structure that is easily explainable as well as repeatedly replicated in other studies.

## Chapter 4: Method: Study Two

After reviewing the results of Study One and being faced with the realistic constraints of an on-site research study in a multi-national corporation, difficult decisions were made to optimize to meet the goals of the study by clarifying results of Study One, and maintaining the requests of the corporation. For example, within the corporation, employee survey research is typically completed with as few items as possible, and specific demographic items cannot be asked internally, even if they are self-report, such as ethnicity or gender. Reasoning for this comes from internal legal guidance relating to privacy and discoverability. In the case of this research, because we also wanted to ask about self-report performance data, it was especially important that we not be able to link back to ethnicity or gender. To meet the internal needs of the organization, the survey also had to be timed so as not to interfere with specific rhythm of the business activities which involve all employees, such as annual career discussions and the annual employee survey. Therefore, the author proposed recommendations and negotiated with the Dissertation Committee to reduce the load on employees by using only the following scales in Study Two: a) Multidimensional Perfectionism Measure, b) Burnout Measure-Short, c) Perceived Stress Scale, d) Regulatory Focus Measure, e) job satisfaction items, f) internal performance measure data, and e) company-related and approved demographics.

Based on the results of Study One, the Hypotheses that remained were:

Hypothesis 1: Adaptive perfectionists will have lower levels of mental health-related issues than Maladaptive perfectionists, specifically lower levels of stress.

From Hypothesis 2, only part remained: Hypothesis 2a: Adaptive perfectionists will have higher promotion regulatory focus and Maladaptive perfectionists will have higher prevention regulatory focus.

Hypothesis 3: Adaptive perfectionists will differ from Maladaptive perfectionists on job-related outcome variables.

Hypothesis 3a: Adaptive perfectionists will have higher overall job performance scores than Maladaptive perfectionists.

Hypothesis 3b: Adaptive perfectionists will report longer intentions to stay with their company than Maladaptive perfectionists.

Hypothesis 3c: Adaptive perfectionists will report that they will recommend their organization as a great place to work more than Maladaptive perfectionists.

Hypothesis 3d: Adaptive perfectionists will report higher overall job satisfaction than Maladaptive perfectionists.

Hypothesis 3e: Adaptive perfectionists will report less burnout than Maladaptive perfectionists.

Hypothesis 4: Stress and burnout will mediate the relationship between maladaptive perfectionism and the outcomes of job performance and job satisfaction.

Hypothesis 4a: Stress will mediate the relationship between maladaptive perfectionism and job performance.

Hypothesis 4b: Stress will mediate the relationship between maladaptive perfectionism and job satisfaction.

Hypothesis 4c: Burnout will mediate the relationship between maladaptive perfectionism and job performance.

Hypothesis 4d: Burnout will mediate the relationship between maladaptive perfectionism and job satisfaction.

### *Participants and Procedure*

*Selection of Organization and Background.* A global software and technological company headquartered in the Pacific Northwest area of the United States company was selected because it was convenient to the researcher, the company was interested in the potential findings, and because the culture is supportive of an environment that could breed perfectionistic tendencies, making the incidence higher (broader prevalence) and therefore easier to study. For example, like many other multinational companies, this company has communicated Corporate Values, in the form of “Corporate Tenets and Values.” The description is aimed at guiding decisions employees make and describing the interactions of the employees with each other and customers. The Tenets and Values are used broadly within the culture and are listed on their external website as well. There are four major areas which are communicated to employees and could be impacting the incidence of perfectionism in this company: Excellence (core Tenet); Self-Critical (core Value); Willingness to take on big challenges and see them through (core Value); and Drive for results (a former core competency for many years, and a current attribute of the culture). These aspects are built-into the culture and into the daily jargon of the employees.

The selected company also has a pay for performance system, which is supported by a “manage-up or manage-out” philosophy. This system encourages a harsh performance system, whereby exceeding expectations/goals on the performance review is an expectation in order to receive bonus or merit increase, high performance is an

expectation within the culture, and a common cultural theme is: “To succeed in the world of technology we have to produce the best software [from the best employees]” and “We only hire the best and the brightest.” These internal philosophies thereby influence the corporate culture and behavior of employees. Competitiveness has been a key hallmark of the employees and supported from the performance-based reward systems. Employees are rewarded for not just doing their best, but also being better than others, which breeds competitiveness and even fear of failure, or for some, fear of losing one’s job.

A random sample of 3,000 United States-based employees was selected from the employee database, and was sent an email inviting them to participate in the survey from an internal research team. Because the measures were only available in English, United States-based employees were selected instead of using the global population. This was done in order to decrease errors in the collection of data due to language barriers. Participants were selected specifically from the Engineering job function within the company. This is useful to the company based on this function’s unique role. For example, the Engineering function the company includes software developers, testers, and program managers of the software design process. This function is notorious within the company to be seething with “intellectual horsepower” and workaholic tendencies. They are a critical link in the making of the products, actually developing and testing the code for the products themselves. Therefore, because Engineers in this organization could be more likely to be perfectionists, they were the selected sample for this study.

*Participants.* Participants were 552 employees of a global software and technological company headquartered in the Pacific Northwest area of the United States. In order to achieve an acceptable level of power for the proposed analyses, and knowing



the potential response rate of this population is approximately 10-30% to a non-solicited survey, a sample of 3,000 employees was sought out and invited to participate in order to reach the minimum desired sample size of at least 300. A final response rate of 18% was reached which is considered excellent within the company for a non-program related survey. Because some demographics could not be asked within the survey, we were unable to determine the ethnicity distribution or gender distribution of the respondents. However, because sampling file used to obtain participant names from the full population included some basic demographics, we were able to examine the make-up of the entire eligible sample, irrespective of participation.

From the population file of the 3,000 invited participants, they were all located in the United States and represented California, New York, North Carolina, North Dakota, Texas, and Washington. They were all Exempt employees, considered Salaried Regular internally. One hundred ninety-five were individual contributors (non-managers), and 2808 were in management. Their internal pay levels ranged from entry-level to Sr. Directors, with Partners and Executives being excluded by design to meet internal employee research best practices. Two-hundred eighty-two had high-potential designations. These demographics were not available for the actual respondents.

Because the Engineering job function was the selected function for this company and study, there is a known over-representation of males at a population level, and can be assumed in the sample as well. Table 18 shows the distribution of participants across Engineering sub-disciplines, tenure and level, which were the demographic items allowed in the survey. There was good distribution across Engineering job type sub-disciplines.

The participation by level mimics the level structure of this job grouping and the company with a majority of employees falling in the Level 60-64 group.

Table 18

*Study Two Participant Demographics (N = 552)*

Variable	N	% of Sample
Company tenure: 0-2 years	21	3.8%
Company tenure: 2-4 years	45	8.2%
Company tenure: 4-6 years	68	12.3%
Company tenure: 6-10 years	235	42.6%
Company tenure: 10+ years	182	33.0%
Engineering Sub Discipline: SDET	158	28.6%
Engineering Sub Discipline: Developer	153	27.7%
Engineering Sub Discipline: Program Management	144	26.1%
Engineering Sub Discipline: Product Management	3	.5%
Engineering Sub Discipline: Other	92	16.7%
Job Level: 68+	1	.2%
Job Level: 65-67	142	25.7%
Job Level: 60-64	400	72.5%
Job Level: 55-59	8	1.4%
Job Level: 0-54	0	0

Additionally, participants were distributed across tenure as expected, by mapping to internal company tenure information, with a majority of respondents from the longer-tenured employees.

*Procedure.* Employees were notified in their invitation e-mail of their rights as participants (thus meeting the needs for informed consent) when taking the survey. They were notified that the survey was anonymous using the company's internal survey tool, and it was confidential. Although a list of the sample of potential participants was available to use in programming the invitations, their responses could not be connected to their names. Because of how the survey tool works, a survey can only be opened for a specified period of time. Therefore, the survey tool was "live" and able to accept data for 16 days, which is a typical survey timeframe in the company of interest. Data collection was available 24 hours per day. At the end of the 16 days, the participation rate was calculated of 18%, and the survey was closed because enough participants had responded. Once data collection was completed, the survey "expired" in the system, not allowing for any more participants to open the link and complete the survey.

The Consensus survey program records the data and also can serve as a reporting tool. The raw data was collected and exported to Excel, and then imported to a statistical software program, SPSS. Additionally, the Consensus program data can be easily exported to run descriptive statistics, such as Means, Standard Deviations, and Cross tabulations of results across items, and the Consensus tool allows real-time views of results as the data are being collected. The time needed from each respondent to the survey was not expected to exceed more than 20 minutes per responding employee.

Because this survey program is used internally on a regular basis by thousands of employees each year, the survey tool is trusted to keep the participants' individual identities anonymous. Additionally, the invitation came from the People Research Group, a trusted internal team within the company to conduct and provide credible research. When the survey is programmed as "anonymous" and the research is sponsored from a trusted team, participation results are higher and internal feedback from employees suggests that employees are more honest in their responses.

### *Measures*

The measures were ultimately determined from the first study analyses. A brief re-cap of the Measures used from the first study are described here. The measures described below resulted in 87 items for the corporate employee sample to complete.

*Independent variables.* The MPS measure of perfectionism was selected based on the results of the first study's analyses. The MPS had the best reliability, well-tested classification system, and best support of the hypotheses, as well as most rationally intuitive classification system, and easily interpreted items to an audience. Though the AMPS also showed good support for the hypotheses, the classification procedure was experimental and not tested with any other research. Therefore, to optimize the study, the MPS was selected.

For reliability, alpha coefficients for the subscales in this sample were somewhat lower than in the student sample. For comparison, the coefficients for the student sample are in parentheses. The reliability coefficients were  $\alpha = .88$  (.87) for the full measure; for Concern over Mistakes  $\alpha = .86$  (.82), Personal Standards  $\alpha = .78$  (.77), Parental

Expectations  $\alpha = .76$  (.80), Parental Criticism  $\alpha = .74$  (.81), Doubts about Actions  $\alpha = .65$  (.76) and Organization  $\alpha = .90$  (.92).

The measure was used to classify participants as adaptive perfectionists, maladaptive perfectionists or non-perfectionists based on scores being above the median on either the adaptive factor (Organization and Personal Standards) or maladaptive factor (Concern Over Mistakes, Doubts About Actions, Parental Criticism, and Parental Expectations), both the adaptive and the maladaptive factor, or neither. Using the same method as study one, scores were combined from the maladaptive factors to yield a total Maladaptive score (average on Concern Over Mistakes, Doubts about Actions, Parental Expectations and Parental Criticism) and a total Adaptive score (Personal Standards and Organization). Adaptive perfectionists were those with a total score higher than the median on the Adaptive factors ( $> 48$ ) and lower than the median on the Maladaptive factors ( $< 57$ ). Maladaptive perfectionists were those with a score higher than the median on the Maladaptive factors ( $> 57$ ) and lower than the median on the Adaptive factors ( $< 48$ ). If a participant scored higher than the median on both factors, or lower than the median on both factors, they were classified as neither and were excluded. This method yielded a total of 110 (20%) Adaptive perfectionists, 101 (18%) Maladaptive perfectionists, and 341(62%) remained unclassified.

*Dependent variables.* The work-related outcome variables were determined from the first study, and included the Perceived Stress Scale, Burnout Measure-Short, and three job satisfaction items from Study One.

*Stress.* Stress was measured by the Perceived Stress Scale (Cohen et al., 1983) described for Study One. The alpha reliability coefficient for the second study sample was  $\alpha = .87$ .

*Burnout.* The Burnout Measure, short version (Malach-Pines, 2005) described for Study One was used. The internal consistency was  $\alpha = .91$  in the second study.

*Job satisfaction.* The company selected for the second study uses several standardized items on their employee survey of how long the employee expects to stay with the company, their agreement with recommending the company as a great place to work, and global job satisfaction. Because these items were already familiar to the full-time employee sample in the second study and of interest to the company, these items were also used in the first study. Items are provided in Appendix B. In previous research, the first two items have a Cronbach's Alpha of .65, and were significantly correlated with each other ( $r = .48, p < .01$ ). A version of the third item was used with a sub-sample of the employees in 2006 (Considering everything, how satisfied are you with X Company at the present time?) and it correlated positively with the other two items ( $r = .27, p < .01$  with expecting to stay with the company and  $r = .42, p < .01$  with recommending the company as a great place to work).

The alpha of the three items together in the second study was  $\alpha = .75$ . This may be a stronger reliability from the one in the student sample due the nature of the sample being employed in a professional career path rather than the types of jobs represented in the student sample. Overall the average of the three items was also slightly higher than the student sample, indicating the potential that this sample was likely to be more satisfied overall with their current companies and jobs than the student sample.

*Other Individual Difference Measures.* One additional survey measure was included as well as a few demographic questions. Regulatory focus was selected again due to the partial support found in Study One.

*Regulatory focus.* The measure from Park et al. (2005) was included in the second study because it has an application of interest to the company. It is provided in Appendix C. To provide comparisons to Study One, the reliability coefficients for Study One are in parentheses. For reliability, Promotion  $\alpha = .80 (.85)$ , and Prevention  $\alpha = .84 (.78)$ . Promotion- Work  $\alpha = .66 (.83)$ , Promotion- General  $\alpha = .71 (.75)$ , Prevention-Work  $\alpha = .79 (.68)$ , and Prevention- General  $\alpha = .68 (.63)$ . Similar to the finding in Study One, this indicates that the prevention subscales were more reliable when used together (combining items from Prevention-Work and Prevention-General), and the promotion subscales (Promotion-Work and Promotion-General) were more reliable when used together.

*Job performance.* Job performance was measured by self-report of the employee's annual review score which is a global measure of job performance in the company. Employees were asked to provide their most recent performance review score, using a multiple choice format. Performance reviews are conducted annually, using a standardized form throughout the software company. Beginning in May of 2006, the review system changed from managers being allowed to give ratings ranging from 2.5 to 5.0, in .5 increments (i.e., 2.5, 3.0, 3.5, 4.0, 4.5, 5.0) to a rating scale of Exceeded, Achieved, and Underperformed. Descriptions of each assigned rating are provided in Appendix D.

This measure however is susceptible to inaccuracy due to the forced bell curve distribution in the company used before May of 2006, which may still be occurring in

pockets of the company. A calibration process is used to reinforce the bell curve system. A manager provides a “draft” score based on how well an employee met or exceeded his/her objectives/goals/commitments from the previous fiscal year, and the definitions are provided in Appendix D. Although this method is controversial within the company, it has been used for many years, and it is the most readily available and salient overall meaningful job performance data collected for this company.

Because this score is used throughout the company for various purposes, employees generally are accurate in recalling their score. Though this information is available from the company, in order to obtain it on the individuals and connect it with the correct respondent, the survey program would have to be able to connect the respondent’s data to their performance score, which is a capability not currently available within the company’s internal survey program. Additionally, this would also require a higher level of secure technology and legal approval which is not cost-effective for this study, given that most employees have been accurate in recalling their scores in previous research conducted within the company. Respondents were given a multiple-choice list from which to select their most recent score.

Employees were also asked to provide their current Contribution Ranking (stock class rating). Current Contribution Ranking is a variable used within the company to serve as a proxy for the individual’s long-term potential for performance and benefit to the company. Up until May of 2006, the ratings were on a scale from A-D. Starting in May of 2006, the ratings changed to three groups: Outstanding, Strong, and Limited, but both were intended to show the subjective long-term worth of the employee to the company. Managers determine an individual’s stock class rating based on performance



and potential. Contribution Ranking is then used to distribute stock awards (shares of company stock). This score is by nature a normally distributed variable, and managers are required to assign rankings along a normal distribution curve within their teams. Then, managers gather with larger groups to decide the final ratings based on relative scores. In these calibration meetings, an employee's performance is compared to other employees within their larger department who hold jobs at similar pay levels or bands. This relative rating is used to determine how the bell curve will be applied to a larger group. Managers have the ability to defend their suggested ratings for their employees based on their documented deliverables and performance over the past year and comparison to definition as compared to similar others. Although this method is controversial within the company, it has been used for many years, it is of interest to the company, so it will be included as another measure of performance, but is more associated with potential long-term contribution to the company.

Table 19 shows the distribution of self-reported performance ratings for both Commitment Rating and Contribution Ranking. Though job performance ratings in the company are well-known by individuals, they do not reflect the distribution of ratings in the company. This may be a result of misrepresentation of performance ratings intentionally or perhaps lower performers were less inclined to participate. From other internal research for this company where job performance is mapped on the back-end there are not typically differences in response rates by job performance scores. Therefore, it is more likely that lower performers misrepresented their performance ratings as higher than they really were (Commitment Rating and Contribution Ranking), causing a restriction in range.

*Demographics.* The demographics collected are included in Appendix C. These were investigated to determine if there are any differences based on these characteristics. Because of company policy, demographic information about gender and ethnicity was not collected. Instead, employees were asked to provide the following demographics as self-report: tenure with the company, current job level within the company, and current job function area. Distributions are provided in Table 18 presented previously. Where appropriate, the company's own grouping system was used as the multiple-choice options. For example, job level groupings are more nominal than ordinal. Although the levels do increase, the groupings are not evenly spaced based upon job groupings and structure of the company. For example, there is an artificial "jump" from a level 64 to a level 65, because a level 65-67 job is considered a Director within the company, and a level 68-70 job is considered a Partner within the company. These distinctions are based on the hierarchy of the company, and the jobs. There are also no jobs between level 71-79, and Executives start at level 80. Lastly, employees were asked which sub-discipline of Engineering they worked in (Program Management, Product Management, SDET (testing), or Software Development).

Table 19

*Distribution of Performance Ratings: Commitment Rating and Contribution Ranking*

Contribution	Outstanding	Strong	Limited	N/A Did not have a ranking	Totals
Exceeded	161	169	2	0	332
Achieved	26	165	19	0	210
Underperformed	0	0	2	0	2
N/A Did not have a rating	1	0	0	5	6
Totals	188	334	23	5	550

*Note.* Contribution Ranking is a curved rating within the company such that 20% receive Outstanding, 70% receive Strong, and 10% receive Limited. Commitment Rating is not a curved score and should be based on actual reflection of the end of year commitments (goals) status.

## Chapter 5: Study Two Results

### *Study Two Analysis*

*Descriptive Statistics and Demographics.* Descriptive statistics were calculated for the participants and the measures. All of the invited participants were pre-selected to be currently employed in the Engineering profession (job grouping) of the company. Of the 552 participants who provided the second-tier information about their job, 158 (28.6%) were from the SDET discipline which compromise software testers or combination jobs of developers and testers, 153 (27.7%) were software developers, 144 (26.1%) were program managers, 3 (.5%) were product managers, and 92 (16.7%) self-selected 'other' which could be specialty jobs such as animation artists, technical writing, etc.

The majority of participants have been with this company for six years or more, and the participants are primarily in non-Executive roles by the design of the survey (Level 60-64 as shown previously in Table 18), though 25% are in Director-level positions.

Descriptive statistics for the self-report measures of perfectionism, stress, burnout, regulatory focus, and job satisfaction are available in Table 20.

Table 20

*Descriptive Statistics of Study Two Measures*

Variable	M	SD	Min	Max	N
MPS- Adaptive Factors Total	47.93	6.842	25.0	65.0	552
MPS- Maladaptive Factors Total	57.60	11.712	28.0	99.0	552
MPS- Concern over Mistakes	2.69	.720	1.00	4.78	552
MPS- Doubts about Actions	2.48	.693	1.00	5.00	551
MPS- Personal Standards	3.73	.619	1.86	5.00	552
MPS- Organization	3.65	.749	1.17	5.00	552
MPS- Parental Criticism	2.20	.739	1.00	5.00	551
MPS- Parental Expectations	2.98	.713	1.00	5.00	551
Perceived Stress Scale	2.69	.533	1.21	4.08	550
Burnout Short Measure	2.86	1.039	1.00	6.30	549
Job Satisfaction: Expect to stay with Company (years)	3.75	1.072	1.0	5.0	547
Job Satisfaction: Recommend Company as a great place to work	3.95	.888	1.0	5.0	551
Job Satisfaction: Overall Satisfaction	3.73	.916	1.0	5.0	551
Job Satisfaction: Three Item Average	3.81	.786	1.33	5.0	551
Regulatory Focus- Prevention All	3.39	1.036	1.0	6.4	551
Regulatory Focus- Prevention General	3.29	1.067	1.0	6.2	551
Regulatory Focus- Prevention Work	3.51	1.203	1.0	6.2	551
Regulatory Focus- Promotion All	5.41	.710	3.0	7.0	551

Variable	M	SD	Min	Max	N
Regulatory Focus- Promotion General	5.18	.908	1.6	7.0	551
Regulatory Focus- Promotion Work	5.63	.678	3.60	7.0	551

*Note.* MPS: Multidimensional Perfectionism Scale

As described in the Method section for Study Two, the MPS was able to be used to group participants into categories. Using the same method as study one this method yielded a total of 110 Adaptive perfectionists (20%), 101 Maladaptive perfectionists (18%), and 341 as unclassified (62%).

Descriptive statistics were examined to determine if differences in perfectionism are likely as a result of tenure, job function, or level using t-tests or ANOVAs.

Tenure with a company was tested for differences with the MPS measure, and tenure was skewed to the 6-10 years group (43% of participants), however the ANOVA did not show significant differences based on tenure. The ANOVA was significant for Personal Standards ( $F(4) = 4.67, p < .001$ ). The means were as follows: 0-2 years 3.93, 2-4 years 3.93, 4-6 years 3.93, 6-10 years 3.67, 10 years or more 3.67. Conducting Tukey's as a post-hoc test indicated that the 4-6 year group ( $M = 3.93, SD = .57$ ) was significantly higher on Personal Standards than the 6-10 year group ( $M = 3.67, SD = .63$ ), and the 4-6 year group was significantly higher on Personal Standards than the 10 years or more tenure group ( $M = 3.67, SD = .60$ ).

Differences between job disciplines were also examined. The Engineering job disciplines were generally well-represented, and significant differences between them were not found.

Job Level was skewed to the level 60-64 group and level was tested to determine if differences in level yielded different MPS subscale scores, but no significant differences were found. Additionally, because of the possibility that level was related to stress and burnout (because higher level jobs come with more responsibility), job level

was also tested to determine if differences in level yielded different levels of stress and burnout, but differences were not significant.

*Correlations.* The correlation matrix for the subscales of the MPS is presented in Table 21. In general, the patterns follow the groupings of the subscales into adaptive and maladaptive such that the subscales making up a maladaptive factor correlated positively (Concern Over Mistakes, Parental Expectations, Parental Criticism, and Doubts About Actions) and the subscales combined for an adaptive factor correlated positively (Personal Standards and Organization, significant though not strong). Additionally, Table 21 shows that the MPS subscales in general correlated strongly with each other and the overall MPS score, with the two adaptive subscales of Personal Standards and Organization ( $r = .18, p < .01$ ) similarly related to each other as in Study One ( $r = .22, p < .01$ ). The maladaptive subscales were strongly related to each other, with the strongest subscale correlation between Parental Criticism and Parental Expectations ( $r = .52, p < .01$ ).

Correlations between the three job satisfaction items are shown in Table 22. The correlations in this study were stronger between recommending the company as a great place to work and expecting to stay with the company ( $r = .39, p < .01$  compared with  $r = .25$  from Study One). However, recommending the company as a great place to work was correlated slightly weaker with overall job satisfaction in this study than in the student sample study ( $r = .63, p < .01$  compared with  $r = .72$  in Study One). The three items were strongly and positively correlated with one another.



Table 21

*Multidimensional Perfectionism Scale Subscale Correlations for Study Two (N=552)*

	1	2	3	4	5	6
1. Concern Over Mistakes	.86					
2. Doubts About Actions	.40**	.65				
3. Personal Standards	.49**	.04	.78			
4. Organization	-.01	-.03	.18**	.90		
5. Parental Criticism	.41**	.24**	.24**	.07	.74	
6. Parental Expectations	.39**	.07	.44**	.08	.52**	.76

*Note.* Diagonal reflects alpha reliability coefficient.

\*  $p < .05$

\*\*  $p < .01$

Table 22

*Job Satisfaction Item-to-Item Correlations (N=552)*

	Expect to Stay	Recommend
Recommend	.39**	
Overall	.50**	.63**

*Note.* Expect to stay = I expect to work for this company X more years;

Recommend = I would recommend my company as a great place to work;

Overall = Considering everything, how satisfied are you with your job?

\*  $p < .05$

\*\*  $p < .01$

Correlations between the subscales of regulatory focus are presented in Table 23. The correlations show that the prevention subscales were most related to each other and not the promotion subscales, and likewise the promotion subscales were most related to each other and not the prevention subscales. Additionally, the prevention subscales were significantly negatively correlated with the promotion subscales, which provide support for discriminant validity of these two subscales being distinct from each other.

Table 23

*Regulatory Focus Subscale Correlations for Study Two (N=551)*

	1	2	3	4	5	6
1. Promotion- All	.80					
2. Prevention- All	-.22**	.84				
3. Promotion-Work	.86**	-.16**	.66			
4. Promotion- General	.92**	-.22**	.59**	.71		
5. Prevention-Work	-.22**	.93**	-.15**	-.23**	.79	
6. Prevention-General	-.18**	.92**	-.15**	-.17**	.72**	.68

*Note.* Diagonal reflects alpha reliability coefficient.

\*  $p < .05$

\*\*  $p < .01$

As expected and shown in Table 24, Perceived Stress and Burnout were strongly related ( $r = .70, p < .01$ ). Expecting to stay with the company was negatively related to both stress ( $r = -.13, p < .01$ ) and burnout ( $r = -.31, p < .01$ ), indicating that the more perceived stress or burnout an employee feels, the less likely he or she is to want to remain working there. Similarly, negative correlations were found between recommending the company as a great place to work and stress ( $r = -.24, p < .01$ ), and burnout ( $r = -.43, p < .01$ ), and between overall job satisfaction and stress ( $r = -.41, p < .01$ ), and burnout ( $r = -.59, p < .01$ ).

Table 24

*Correlations between All Measures in Study Two (N=552)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. MPS- Ad	1.00														
2. MPS- Mal	.33**	1.00													
3. MPS-CM	.30**	.87**	1.00												
4. MPS-DA	.02	.54**	.40**	1.00											
5. MPS-PE	.32**	.65**	.39**	.07	1.00										
6. MPS-PC	.17**	.67**	.41**	.24**	.52**	1.00									
7. MPS-PS	.75**	.47**	.49**	.04	.44**	.24**	1.00								
8. MPS-OR	.76**	.02	-.01	-.03	.08	.07	.18**	1.00							
9. PSS	.01	.45**	.40**	.52**	.14**	.24**	.10*	-.08	1.00						
10. Burnout	.05	.36**	.32**	.38**	.11*	.24*	.12*	-.03	.70**	1.00					
11. Stay	.06	-.07	-.04	-.09*	-.07	-.07	.00	.07	-.13**	-.31**	1.00				
12. Rec	.09**	-.09*	-.09*	-.08	.01	-.12**	.02	.11*	-.24**	-.43**	.39**	1.00			
13. Overall	-.01	-.19**	-.15**	-.20**	-.07	-.18**	-.05	.03	-.41**	-.59**	.50**	.63**	1.00		
14. RF Prev	.01	.47**	.43**	.50**	.17**	.27**	.07	.02	.61**	.55**	-.05	-.13**	-.25**	1.00	
15. RF-Promo	.33**	-.03	.01	-.23	.13**	-.05	.32**	.19**	-.24**	-.20**	.12**	.28**	.21**	-.22**	1.00

*Note.* MPS: Multidimensional Perfectionism Scale Adaptive composite; MPS-Mal: MPS Maladaptive composite; MPS Subscales are indicated by abbreviations: CM: Concern Over Mistakes, DA: Doubts About Actions, PE: Parental Expectations, PC: Parental Criticism, PS: Personal Standards, OR: Organization. PSS: Perceived Stress Scale; Stay: I expect to work for this company X more years; Rec: I would recommend my company as a great place to work; Overall: Considering everything, how satisfied are you with your job?. RF-Prev: Regulatory Prevention Focus; RF-Promo: Regulatory Promotion Focus.

\*  $p < .05$

\*\*  $p < .01$

*Hypothesis Testing.*

*Hypothesis 1.* The first hypothesis is focused on the mental-health related outcome variable stress. Hypothesis 1: Adaptive perfectionists will have lower levels of mental health-related issues than Maladaptive perfectionists, specifically lower levels of stress.

To start, significant positive correlations were found between Perceived Stress and the four maladaptive factors of the MPS (Concern over Mistakes, Doubts about Actions, Parental Expectations, and Parental Criticism), but not with the adaptive factors of Personal Standards or Organization. Next, using the MPS, participants' were classified as either adaptive or maladaptive perfectionist or neither. Then, a t-test was used to determine if there were differences between adaptive and maladaptive perfectionists on the means of the Perceived Stress Scale. The t-test was significant  $t(209) = -7.53, p < .05$ , indicating that the average stress level of the Adaptive perfectionists ( $M = 2.49, SD = .47$ ) was significantly lower than the average stress level of the Maladaptive perfectionists ( $M = 2.99, SD = .50$ ), with an effect size Cohen's  $d = -1.04$ , a large difference.

*Hypothesis 2.* Adaptive perfectionists will have higher promotion regulatory focus and Maladaptive perfectionists will have higher prevention regulatory focus.

As described in the Methods section and Study One, the promotion focus indicates striving to success whereas the prevention focus indicates seeking to avoid failure, a potential key distinction in adaptive and maladaptive perfectionism. Because of this, prevention focus as a total score and promotion focus as a total score were used as

the dependent variables in these results, therefore not distinguishing between generalized promotion or prevention focus and work-specific promotion or prevention focus.

The regulatory focus subscales were also significantly correlated with the MPS factors. As expected and displayed in Table 24 and 25, though the work and general more specified subscales were initially calculated for correlations, the overall Promotion and Prevention subscales were used instead of the finer distinctions. Therefore, the promotion overall subscale was positively related to the adaptive factors of Personal Standards ( $r = .32, p < .01$ ), and Organization ( $r = .19, p < .01$ ); and prevention overall was positively related to the maladaptive factors of Concern Over Mistakes ( $r = .43, p < .01$ ), Doubts About Actions ( $r = .50, p < .01$ ), Parental Criticism ( $r = .27, p < .01$ ) and Parental Expectations ( $r = .17, p < .01$ ).

Table 25

*Correlations between the MPS and Regulatory Focus Subscales (N=552)*

	1	2	3	4	5	6	7	8	9	10	11	12
1. CM	1.00											
2. DA	.40**	1.00										
3. PE	.39**	.07	1.00									
4. PC	.41**	.24**	.52**	1.00								
5. PS	.49**	.04	.44**	.24**	1.00							
6. OR	-.01	-.03	.08	.07	.18**	1.00						
7. Promo All	.01	-.23**	.13**	-.05	.32**	.19**	1.00					
8. Prev All	.43**	.50**	.17**	.27**	.07	.02	-.22**	1.00				
9. Promo Work	-.00	-.22**	.12**	-.06	.28**	.21**	.86**	-.16**	1.00			
10. Promo Gen	.01	-.20**	.10*	-.04	.30**	.15**	.92**	-.22**	.59**	1.00		
11. Prev Work	.40**	.49**	.15**	.26**	.06	-.01	-.22**	.93**	-.15**	-.23**	1.00	
12. Prev Gen	.40**	.43**	.16**	.25**	.07	.05	-.18**	.92**	-.15**	-.17**	.72**	.68



*Note.* MPS: Multidimensional Perfectionism Scale overall average; MPS Subscales are indicated by abbreviations: CM: Concern Over Mistakes, DA: Doubts About Actions, PE: Parental Expectations, PC: Parental Criticism, PS: Personal Standards, OR: Organization. PSS: Perceived Stress Scale; Stay: I expect to work for this company X more years; Rec: I would recommend my company as a great place to work; Overall: Considering everything, how satisfied are you with your job?. Reg. Focus: Regulatory Focus overall average.

\*  $p < .05$

\*\*  $p < .01$

Using the MPS method of classification, t-tests were again used here and supported the hypothesis in all subscales of regulatory focus. The t-test for Prevention Focus was significant: Prevention Focus  $t(209) = -6.15, p < .05$ , indicating that the average prevention focus level of Maladaptive perfectionists ( $M = 3.88, SD = .99$ ) was significantly higher than the average prevention focus level of the Adaptive perfectionists ( $M = 3.12, SD = .81$ ), with an effect size Cohen's  $d = -.85$ , a large difference. Also supporting the hypothesis, the t-test for Promotion Focus was significant: Promotion Focus  $t(209) = 4.64, p < .05$ , indicating that the average promotion focus level of the Adaptive perfectionists ( $M = 5.52, SD = .59$ ) was significantly higher than the average promotion level of the Maladaptive perfectionists ( $M = 5.10, SD = .73$ ), with an effect size Cohen's  $d = .64$ , a medium to large difference.

In comparison to Study One where this hypothesis was only partially supported but in the hypothesized direction, in Study Two it was fully supported. Maladaptive perfectionists were more prevention focused and Adaptive perfectionists were more promotion focused which is further support for the differences between Adaptive Perfectionists and Maladaptive Perfectionists and their approach to work.

*Hypothesis 3.* Adaptive perfectionists will differ from Maladaptive perfectionists on job-related outcome variables.

Hypothesis 3a: Adaptive perfectionists will have higher overall job performance scores than Maladaptive perfectionists.

This hypothesis was tested using actual self-report job performance ratings (Commitment Rating) as well as self-reported future potential ratings (Contribution Ranking). Recall that these variables had significant range restriction possibly due to the

self-report nature as well as actual range restriction of Contribution Ranking due to the company's forced distribution system. When tested using Commitment Rating and Contribution Ranking separately and a t-test treating each performance variable as a numerical scale, this hypothesis was supported only for Contribution Ranking with a small effect size. Commitment Rating  $t(208) = -1.47, p = .07$ , and Contribution Ranking  $t(208) = 1.72, p < .05$ , with Adaptive perfectionists receiving higher Contribution Rankings ( $M = 2.35, SD = .55$ ) than Maladaptive perfectionists ( $M = 2.22, SD = .52$ ), with an effect size Cohen's  $d = .24$ , a small difference. However, this company does use both variables together to create a "9-Box Grid" of Commitment Ratings x Contribution Rankings. This example is shown in Table 26. Therefore, each participant's performance ratings were recoded to match the 9-box scale used by the company and then a single t-test was performed using this 9-Box categorization which is treated as a numerical interval scale. The hypothesis was not supported using the 9-Box method ( $t(209) = 1.05, p = .15$ ). Regression was also used to determine if job performance could be predicted by type of perfectionism using the 9-Box method but was not significant. Due to the nature of the performance rating system, it is highly likely that participants self-reported ratings on these two variables were not accurate, thereby impacting the results found.

Table 26

*9-Box Grid of Performance Ratings used by the company in Study Two*

Commitment Rating			
Contribution Ranking	Underperformed	Achieved	Exceeded
Outstanding	7	8	9
Strong	4	5	6
Limited	1	2	3

Hypothesis 3b: Adaptive perfectionists will report longer intentions to stay with their company than Maladaptive perfectionists.

From the correlations shown earlier in Table 24, intending to stay with the company was not significantly correlated with any of the perfectionism factors.

However, unlike Study One, this hypothesis was supported using the MPS classifications  $t(208) = 2.64, p < .05$ , indicating that Adaptive perfectionists ( $M = 3.87, SD = 1.00$ ) were more likely to want to remain at this company longer than Maladaptive perfectionists ( $M = 3.49, SD = 1.12$ ), with an effect size Cohen's  $d = .37$ , a small to medium difference.

Hypothesis 3c: Adaptive perfectionists will report that they will recommend their organization as a great place to work more than Maladaptive perfectionists.

Recommending the company as a great place to work was significantly negatively correlated with the maladaptive perfectionism factors Concern Over Mistakes ( $r = -.09, p < .05$ ) and Parental Criticism ( $r = -.12, p < .05$ ). This hypothesis when tested using the MPS was supported with a significant t-test:  $t(209) = 3.22, p < .05$ , indicating that Adaptive perfectionists ( $M = 4.10, SD = .81$ ) were more likely to recommend this company as a great place to work than Maladaptive perfectionists ( $M = 3.70, SD = .98$ ), with an effect size Cohen's  $d = .45$ , a small to medium difference.

Hypothesis 3d: Adaptive perfectionists will report higher overall job satisfaction than Maladaptive perfectionists.

Overall job satisfaction was significantly negatively correlated with three maladaptive perfectionism factors: Concern Over Mistakes ( $r = -.15, p < .05$ ), Doubts About Actions ( $r = -.20, p < .05$ ), and Parental Criticism ( $r = -.18, p < .05$ ). This hypothesis when tested using the MPS was supported with a significant t-test:  $t(209) =$

3.55,  $p < .05$ , indicating that Adaptive perfectionists ( $M = 3.91$ ,  $SD = .88$ ) were more likely to be overall satisfied with their jobs than Maladaptive perfectionists ( $M = 3.46$ ,  $SD = .98$ ), with an effect size Cohen's  $d = .49$ , a medium difference.

Hypothesis 3e: Adaptive perfectionists will report less burnout than Maladaptive perfectionists.

Significant positive correlations were found between burnout and the maladaptive factors of Concern Over Mistakes ( $r = .32$ ,  $p < .05$ ), Doubts about Actions ( $r = .38$ ,  $p < .05$ ), Parental Criticism ( $r = .24$ ,  $p < .05$ ), and Parental Expectations ( $r = .11$ ,  $p < .05$ ), as indicated in Table 24. However, there was also an unexpected significant positive correlation between burnout and the adaptive factor Personal Standards ( $r = .12$ ,  $p < .05$ ), which was contrary to the hypothesis. This hypothesis when tested using the MPS was supported with a significant t-test:  $t(209) = -5.13$ ,  $p < .05$ , indicating that Adaptive perfectionists ( $M = 2.56$ ,  $SD = .82$ ) were less likely to experience burnout than Maladaptive perfectionists ( $M = 3.26$ ,  $SD = 1.12$ ) on the Burnout Measure, with an effect size Cohen's  $d = -.71$ , a medium to large difference.

*Post-hoc Analyses.* Follow-up analyses were conducted post-hoc to determine if there were differences in the previous three hypotheses when including the non-perfectionists. The previous hypotheses were examined again using a one-way ANOVA with three groups: Adaptive perfectionists, Maladaptive perfectionists, and the non-perfectionists group ( $n = 340$  total) as determined using the MPS classification system. Results of the ANOVAs show that the mean scores of the non-perfectionists were typically in the middle of the Adaptives and Maladaptives, however not significantly different from the other two groups. The exception is for Hypothesis 1 (stress), and

Hypothesis 3e (Burnout) where the non-perfectionist group is significantly different from both Adaptive and Maladaptive perfectionists, clearly in the middle, neither highest nor lowest on stress or burnout. The non-perfectionists however, were a combination of participants whose scores on the MPS did not reach the threshold of perfectionism to be included as Adaptives or Maladaptives (n= 186), and in some cases could have had scores that would have made them high enough in Adaptive or Maladaptive perfectionism to be considered “both” (n = 154).

Table 27

*Post-Hoc Analyses Including Non-perfectionists (N= 551)*

Hypothesis	Adaptive	Non-perfectionists	Maladaptive
1 Stress	<b>2.49</b>	<b>2.66</b>	<b>3.00</b>
2a Regulatory Focus: Prevention	3.12	3.35	<b>3.88</b>
2a Regulatory Focus: Promotion	5.52	5.46	<b>5.10</b>
3a Job Performance: Commitment Rating	1.38	1.41	1.49
3a Job Performance: Contribution Ranking	2.35	2.28	2.22
3a Job Performance: 9 Box	5.33	5.22	5.10
3b Job Satisfaction: Stay	3.87	3.79	<b>3.49</b>
3c Job Satisfaction: Recommend	4.1	3.98	<b>3.70</b>
3d Job Satisfaction: Overall	3.91	3.76	<b>3.46</b>
3e Burnout	<b>2.57</b>	<b>2.84</b>	<b>3.26</b>

*Note.* Bold text indicates a significant difference between two or more groups. Where all three groups are bold, all three groups are significantly different from each other.



*Hypothesis 4.* To examine the mediators of stress and burnout in hypothesis four, multiple regression was used to determine if the more complex relationships were present. Stress and burnout were examined as possible mediators between perfectionism and job satisfaction and between perfectionism and job performance using the 9 Box ratings. Hypothesis 4a and 4b propose stress as a mediator, Hypothesis 4c and 4d propose burnout as a mediator.

Hypothesis 4a: Stress will mediate the relationship between maladaptive perfectionism and job performance. This hypothesis was untested in Study One and can only be tested in Study Two.

Hypothesis 4a was tested by following the Baron and Kenny method (Kenny, 2006) described in Study One using a series of multiple regression equations with the results of classifications from the MPS. All participants were included, not just the maladaptive perfectionists because the hypothesis was related to levels of maladaptive perfectionism, not classification. The first assumption of single relationships between the three variables was partially met: stress and job performance using the 9 Box distinctions were not significantly correlated ( $r = -.21, ns$ ), stress and the four maladaptive subscales perfectionism were significantly positively correlated (see Table 24). Job performance and perfectionism were significantly correlated with only one of the perfectionism subscales, the adaptive factor Personal Standards. Therefore, because job performance and stress were not significantly related, the mediation was not tested further.

Hypothesis 4b: Stress will mediate the relationship between maladaptive perfectionism and job satisfaction.

Hypothesis 4b was tested by following the Baron and Kenny method (Kenny, 2006) using a series of multiple regression equations with the results of classifications from the MPS. All participants were included, not just the maladaptive perfectionists because the hypothesis was related to levels of maladaptive perfectionism, not classification. The first assumption of single relationships between the three variables was partially met: stress and overall job satisfaction were significantly negatively correlated ( $r = -.41, p < .01$ ), stress and the four maladaptive subscales perfectionism were significantly positively correlated (see Table 24 for MPS subscale, stress, and job satisfaction). Job satisfaction and perfectionism were significantly correlated with three of the maladaptive subscales: Parental Criticism ( $r = -.18, p < .05$ ), Doubts About Actions ( $r = -.20, p < .05$ ), and Concern Over Mistakes ( $r = -.15, p < .05$ ).

Table 28 shows the results of the four steps to showing mediation. As expected from the correlations, Concern Over Mistakes, Doubts About Actions, Parental Expectations and Parental Criticism were significant in Step 1. Step 2 was conducted to show that maladaptive perfectionism was correlated with the mediator, stress. The correlations indicate the four maladaptive MPS subscales from Step 1 were correlated with stress as well as the combined maladaptive factor. Step 3 shows the relationship between stress and overall job satisfaction were significantly negatively related in Table 28. Finally Step 4 was a regression of maladaptive perfectionism on job satisfaction, controlling for stress. Step 4 was only conducted for the combined MPS Maladaptive factor, the MPS Concerns Over Mistakes subscale, MPS Parental Criticism, and MPS Doubts About Actions which met the conditions of step 1 and 2.

The results show that the beta of step b was not significant in the final step, and therefore full mediation is supported for three of the independent variables tested; Maladaptive perfectionism as a composite score, MPS Concern Over Mistakes and MPS Doubts About Actions, but not MPS Parental Criticism. For MPS Parental Criticism, partial mediation was found as the beta of step b was lower (dropping from  $-.177$  to  $-.085$ ), but not to the point of insignificance.

Table 28

*Regression Results To Test For Mediation Between Maladaptive Perfectionism and Job Satisfaction with Stress. (N= 522)*

Variable	R	R <sup>2</sup>	B	SE B	$\beta$
Step 1 in Showing Mediation: A relationship exists between the IV and the DV					
MPS Maladaptive perfectionism on job satisfaction	.192**	.037	-.015	.003	-.192
MPS Concern Over Mistakes on job satisfaction	.150**	.022	-.191	.054	-.150
MPS Parental Expectations on job satisfaction	.065	.004	-.083	.055	-.065
MPS Parental Criticism on job satisfaction	.177**	.031	-.220	.052	-.177
MPS Doubts About Actions on job satisfaction	.197**	.039	-.261	.055	-.197
Step 2 in Showing Mediation: A relationship exists between the IV and the mediator					
Maladaptive perfectionism on stress	.452**	.204	.021	.002	.452
MPS Concern Over Mistakes on stress	.400**	.160	.296	.029	.400
MPS Parental Expectations on stress	.135**	.018	.101	.032	.135
MPS Parental Criticism on stress	.237**	.056	.171	.030	.237
MPS Doubts About Actions on stress	.517**	.268	.398	.028	.517
Step 3 in Showing Mediation: A relationship exists between the mediator and DV					
Stress on job satisfaction	.407**	.166	-.699	.067	-.407
Step 4 in Showing Mediation: Hierarchical regression of a) the mediator on the DV and b) with the addition of the IV					
Step a: stress on job satisfaction	.407**	.166	-.699	.067	-.407
Step b: addition of Maladaptive perfectionism	.407**	.166	-.001	.003	-.010
(Sig =					
.819)					
Step a: stress on job satisfaction	.407**	.166	-.699	.067	-.407
Step b: addition of MPS Concern Over Mistakes	.407**	.166	.020	.054	.015

Variable	R	R <sup>2</sup>	B	SE B	$\beta$
					(Sig = .718)
Step a: stress on job satisfaction	.407**	.166	-.699	.067	-.407
Step b: addition of MPS Parental Criticism	.415**	.173	-.106	.050	-.085
					(Sig = .034)
Step a: stress on job satisfaction	.407**	.166	-.699	.067	-.407
Step b: addition of MPS Doubts About Actions	.407**	.166	.024	.060	.018
					(Sig = .689)

*Notes.*

\*  $p < .05$

\*\*  $p < .01$

For ease of display, each step from 1-3 is not a hierarchical regression but separate steps. Step 4 does include a hierarchical regression, controlling for stress as a separate step in the regression analysis.

Hypothesis 4c: Burnout will mediate the relationship between maladaptive perfectionism and job performance.

Hypothesis 4c was tested by following the Baron and Kenny method (Kenny, 2006) using a series of multiple regression equations with the results of classifications from the MPS. All participants were used, not just the maladaptive perfectionists because the hypothesis was related to levels of maladaptive perfectionism, not classification. The first assumption of single relationships between the three variables was not fully met. Burnout and job performance were not significantly correlated ( $r = -.06, ns$ ), burnout and some subscales of maladaptive perfectionism (Parental Expectations, Parental Criticism, Doubts About Actions and Concern Over Mistakes) were significantly positively correlated (see Table 24), and job performance and maladaptive perfectionism were not significantly correlated. However, job performance was significantly correlated with Personal Standards, an adaptive subscale which was not part of the hypothesis. Because burnout and job performance were not significantly related, the mediation analysis was not pursued.

Hypothesis 4d: Burnout will mediate the relationship between maladaptive perfectionism and job satisfaction.

Hypothesis 4d was tested by following the Baron and Kenny method (Kenny, 2006) using a series of multiple regression equations. All participants were used, not just the maladaptive perfectionists because the hypothesis was related to levels of maladaptive perfectionism, not classification. The first assumption of single relationships between the three variables were partially met: burnout and overall job satisfaction were significantly negatively correlated ( $r = -.59, p < .01$ ), burnout and all four subscales of

maladaptive perfectionism were significantly correlated (see Table 24; Parental Expectations, Parental Criticism, Concern Over Mistakes and Doubts About Actions), and job satisfaction and maladaptive perfectionism were significantly correlated with three of the maladaptive subscales, MPS Concern Over Mistakes, Doubts About Actions, and Parental Criticism (see Table 24).

Therefore, Step 1 showed that the subscales of MPS Maladaptive combined subscale, Concern Over Mistakes, Doubts About Actions, Parental Expectations and Parental Criticism were significant, and shown in Table 29. Step 2 was to show that maladaptive perfectionism was correlated with the mediator, burnout. The correlations indicate the four maladaptive MPS subscales were correlated with burnout, along with the maladaptive composite scale. The individual regression equations from combined maladaptive factor from the MPS, MPS Concern Over Mistakes, MPS Parental Criticism, MPS Parental Expectations, and MPS Doubts About Actions were all significant and are shown in Table 29. Step 3 shows the significant negative relationship between burnout and overall job satisfaction. Finally, Step 4 was a regression of maladaptive perfectionism on job satisfaction, controlling for burnout. Step 4 was conducted for the combined MPS Maladaptive factor, Concern Over Mistakes, Parental Expectations, Parental Criticism, and Doubts About Actions. Results in Table 29 show that burnout was a full mediator of the relationship between all five maladaptive perfectionism measures and job satisfaction.

Table 29

*Regression Results To Test For Mediation Between Maladaptive Perfectionism and Job Satisfaction with Burnout. (N= 522)*

Variable	R	R <sup>2</sup>	B	SE B	$\beta$
Step 1 in Showing Mediation: A relationship exists between the IV and the DV					
MPS Maladaptive perfectionism on job satisfaction	.192**	.037	-.015	.003	-.192
MPS Concern Over Mistakes on job satisfaction	.150**	.022	-.191	.054	-.150
MPS Parental Expectations on job satisfaction	.065	.004	-.083	.055	-.065
MPS Parental Criticism on job satisfaction	.177**	.031	-.220	.052	-.177
MPS Doubts About Actions on job satisfaction	.197**	.039	-.261	.055	-.197
Step 2 in Showing Mediation: A relationship exists between the IV and the mediator					
Maladaptive perfectionism on burnout	.359**	.129	.032	.004	.359
MPS Concern Over Mistakes on burnout	.318**	.101	.459	.058	.318
MPS Parental Expectations on burnout	.107*	.011	.156	.062	.107
MPS Parental Criticism on burnout	.243**	.059	.341	.058	.243
MPS Doubts About Actions on burnout	.383**	.147	.575	.059	.383
Step 3 in Showing Mediation: A relationship exists between the mediator and DV					
Burnout on job satisfaction	.590**	.348	-.521	.030	-.590
Step 4 in Showing Mediation: Hierarchical regression of a) the mediator on the DV and b) with the addition of the IV					
Step a: burnout on job satisfaction	.590**	.348	-.521	.030	-.590
Step b: addition of Maladaptive perfectionism	.590**	.349	.002	.003	.023
(Sig =					
.538)					
Step a: burnout on job satisfaction	.590**	.348	-.521	.030	-.590
Step b: addition of MPS Concern Over Mistakes	.591**	.350	.054	.046	.042



Variable	R	R <sup>2</sup>	B	SE B	$\beta$
					(Sig = .248)
Step a: burnout on job satisfaction	.590**	.348	-.521	.030	-.590
Step b: addition of MPS Parental Expectations	.590**	.348	-.002	.045	-.002
					(Sig = .965)
Step a: burnout on job satisfaction	.590**	.348	-.521	.030	-.590
Step b: addition of MPS Parental Criticism	.591**	.349	-.045	.044	-.036
					(Sig = .314)
Step a: burnout on job satisfaction	.590**	.348	-.521	.030	-.590
Step b: addition of MPS Doubts About Actions	.591**	.349	.045	.049	.034
					(Sig = .362)

*Notes.*

\*  $p < .05$

\*\*  $p < .01$

For ease of display, each step from 1-3 is not a hierarchical regression, rather it represents the steps using the Barron and Kenny (Kenny, 2006) method of separate regressions. Step 4 does include a hierarchical regression, controlling for stress as a separate step in the regression analysis.

## Chapter 6: Discussion

This research has shown that the publicly available measures of perfectionism can be used successfully with employed adult samples to yield differentiation of adaptive and maladaptive classifications, and supports many of the hypothesized relationships between those different classifications and other variables such as stress, burnout, regulatory focus, workaholism, and job satisfaction, but unfortunately not job performance. Because of the breadth of hypotheses tested and differences in results found using different perfectionism measures in Study One and in using a different sample in Study Two, Table 30 displays a summary of the results comparing hypothesis that were tested using the Multidimensional Perfectionism Scale.

### *Comparisons of Results across Studies*

Due to the myriad of results explained within Study Two, it is useful to compare Study Two results against the results found in Study One using the same perfectionism measure. Similar results were found using the Multidimensional Perfectionism Scale when exploring the relationship between different types of perfectionists and stress, job satisfaction, and burnout. Across the two studies with different samples of participants at different stages of life and employment, Adaptive perfectionists were less stressed, were more likely to recommend their company as a great place to work, reported higher overall job satisfaction, and less burnout. In both studies stress and burnout were found to be full mediators between maladaptive perfectionism and overall job satisfaction. What this indicates is that job satisfaction is indeed impacted by an employee's own personal attributes as well as how the employee is interacting with the job; and his or her reactions to stress or burnout magnify that relationship.

Table 30

*Comparison and Summary of Results Using Multidimensional Perfectionism Measure*

Hypothesis	MPS-Study One	MPS- Study Two
1 Stress	Supported: Adaptives lower	Supported: Adaptives lower
2a Regulatory Focus	Supported: Adaptives more promotion focused, Maladaptives more Prevention focused	Supported: Adaptives more promotion focused, Maladaptives more Prevention focused
2b Workaholism	Supported: Drive ns; Adaptives more Enjoyment	N/A Did not use
2c Conscientiousness	Supported: Adaptives more Conscientious	N/A Did not use
2d Agreeableness	Supported: Adaptives more Agreeable	N/A Did not use
2e Emotional Stability	Supported: Adaptives more Emotionally Stable	N/A Did not use
3a Job Performance	N/A Did not use	Supported with Contribution Ranking
3b Stay at Company	Not Supported	Supported: Adaptives more likely to want to stay longer
3c Recommend Company	Supported: Adaptives more likely to recommend company	Supported: Adaptives more likely to recommend company
3d Overall Job Sat	Supported: Adaptives higher overall job satisfaction	Supported: Adaptives higher overall job satisfaction
3e Burnout	Supported: Adaptives lower burnout	Supported: Adaptives lower burnout
4a Mediator of stress on job performance	N/A	Not supported; No relationship between stress and job performance

Hypothesis	MPS-Study One	MPS- Study Two
		or with maladaptive factors, so final Step 4 was not conducted.
4b Mediator of stress on job satisfaction	Supported with Maladaptive Combo Scale as IV and with MPS Concern over Mistakes as IV; Full Mediation	Supported with Maladaptive Combo Scale as IV, MPS Concern over Mistakes as IV, and MPS Doubts About Actions as IV; Full Mediation; Partial mediation with Parental Criticism as IV
4c Mediator of burnout on job performance	N/A	No relationship between job performance and maladaptive factors. No mediation.
4d Mediator of burnout on job satisfaction	Supported with Maladaptive Combo Scale as IV and with MPS Concern over Mistakes as IV; Full Mediation	Supported with all 5 IVs: Maladaptive Combo, MPS Concern Over Mistakes, Parental Expectations, Parental Criticism and Doubts About Actions.

Inconclusive or tenuous results were also found between Study One and Study Two. The hypotheses about regulatory focus were all supported in Study Two using employed professionals showing Adaptive perfectionists being more focused on forward-looking promotional and positive outcomes and Maladaptive perfectionists being more focused on preventing failure or negative outcomes. However, in the student sample of Study One the results supported only the Adaptive perfectionists' relationship with regulatory focus, and only marginally supported the Maladaptive perfectionists'. However, power was an issue in Study One, and the means were in the right direction.

In Study One, the hypothesis for Adaptive perfectionists wanting to stay at their company longer than Maladaptive perfectionists was not supported, though it was supported in Study Two. As stated earlier, the difference in results could be due to the confound that the students in Study One were not employed at companies they associated with their future professional career paths but rather were working to support themselves through their undergraduate education. Based on the types of jobs listed from the students, and their general lack of intention to remain with their companies after graduation, this is likely the case.

Some results from Study One were not tested in Study Two, so conclusions cannot be drawn that cross different populations. The hypotheses for workaholism and personality were not tested using the professional sample, but were supported in Study One. Of the aspects of workaholism tested, Adaptives were higher on the Enjoyment subscale than Maladaptives, but there were no significant differences on the Drive subscale. When looking at the relationship between perfectionism and the Big Five

Factors of personality, all three hypotheses were supported showing Adaptives were more Conscientious, Agreeable and Emotionally Stable than Maladaptive perfectionists.

The results from Study Two examining job performance as a unique feature of Study Two were supported using one of the performance measures, examining future potential success in the company (Contribution Ranking) but not supported with the annual performance review rating (Commitment Rating). From research internal to the company, there are several known caveats that may have impacted the study we conducted. Though originally proposed that employees would be honest in reporting their performance ratings, it is possible and probable that some respondents were not honest. By knowing the actual distributions of the performance ratings and typical response rates based on performance ratings (known on the back-end), and comparing them to the self-reported performance ratings, it is likely that respondents were not truthful. Though the questions were specific about selecting their official 2006 performance rating from the list, some may have opted to select what they believed their current performance level to be, skewing the data for Commitment Rating. Additionally, internal research shows varying levels of distrust in the new performance system and skepticism about how decisions are made. Internally to the company, employees are aware that sometimes decisions are made only from opinions of higher performing employees, so the respondents may have felt the need to be dishonest in reporting their performance ratings so that they would be considered in the high-performing groups.

Though job performance was examined using different internal measures and a combined measure, Adaptive and Maladaptive perfectionists were significantly different in their performance ratings for the future-oriented Contribution Ranking. However,

there are measurement issues which may have resulted in the lack of support for the performance hypothesis with Commitment Rating, such as dishonesty mentioned previously. After the development of this research proposal and the execution of the survey with the professional sample, the performance management system of the company was subsequently changed. The new system should have allowed managers to be able to rate their employees' actual performance more accurately using the Commitment Rating and therefore not comparing their performance to the performance of others, however these old habits may still have been present. However, it is also possible that managers are not accurate in their assessments of employee's true performance. This is a culture and company where performance has been subjectively rated by managers and calibrated compared to large groups of other employees where human judgment error is realistic; and for these Engineering employees, performance is not based on an objective measure such as actual lines of correct code developed for the products. Though the intent of the new system was to make it more objective and less comparable and competitive by evaluating actual results of one person against their previously determined goals, the overwhelming culture of comparison and competition could still have been quite strong, impacting the results.

Overall, the results were encouraging, showing that perfectionism can be measured using primarily clinically developed surveys to identify normal perfectionists functioning in professional jobs, and that those adaptive perfectionists are different from their co-workers in ways that may impact their employers.

### *Implications*

This research has both theoretical and applied implications. In the traditional side of theoretical and academic research, this research adds to the bodies of work about perfectionism first and foremost, but also regulatory focus, which is a relatively new variable to be examined in the industrial/organizational psychology domain, and has not before been linked with perfectionism. Traditionally, perfectionism research comes from the clinical psychology domain, whereas this research actively sought to add to the research-at-large using working adults, and thus showing the extensibility, consistency, and generalizability of perfectionism as a research-based construct to the workforce research area. This fills a void in the research, and confirms that we can more confidently treat perfectionism as a construct with different typologies with working adults. The addition of stress and burnout as mediators between perfectionism and job satisfaction has theoretical implications as well. Traditionally stress and burnout are thought to be independent variables in their own right, for example impacting performance or satisfaction; or acting as the dependent variables or outcome variables resulting from an independent variable such as perfectionism. This research pushes the stress and burnout domains further by including them as mediators in the relationships between an individual-level variable and an outcome. From an applied perspective, this research is among the first studies consistently linking perfectionism and work-related outcomes in adults, as well as other individual difference variables (personality) already in use in many companies.

The conclusions of this research are applicable to human resource professionals, selection specialists, and managers. The results should be of interest to perfectionism



researchers in general who do not yet have a model of perfectionism in the workplace, an environment that is impacted by much of the adult population. The implications of this research are that perfectionism is not a unidimensional attribute as it is sometimes assumed to be, and that adaptive perfectionism is linked to positive employee outcomes, whereas maladaptive perfectionism is linked to negative employee outcomes such as stress, burnout, and lower job satisfaction. On that knowledge alone selection criteria should not be determined, but managers and internal human resource professionals can use that knowledge to help them when identifying possible sources of discontent in their current employee base. Additionally, when internal managers, leaders, and human resources professionals know that Adaptive perfectionists are also more Agreeable, Conscientious, and Emotionally Stable, characteristics that have been researched against performance, they can begin to make better choices about how to attract future employees and how to work with current employees who they suspect may be either Adaptive or Maladaptive.

The implications for the company studied in Study Two are that perfectionism should be looked at more closely for its potential impact creating difficulties in their current initiative of changing the company culture and secondly its underscored presence in internal assessment used for development. Though the measure used in Study Two does include aspects of perfectionism that are more developmental and related to upbringing, there are ways an employer could use these general conclusions in their assessment and development of current employees. When managers are examining their annual employee survey results, they can look to the individual differences and personalities of their team members to determine if their interventions should be based on

ways to work better together as a team, to encourage more conscientious behaviors, discussions to reach agreement, and even suggest mental health assistance with the support of their human resources professionals to those employees who may seem less emotionally stable than others. While there is widespread support that personality traits run deep, encouragement, reinforcement, and recognition of desired behaviors at work in these areas may help create a climate where more adaptive perfectionism behaviors and attitudes come through, stress and burnout may be decreased, there is more focus on positive outcomes (promotion-related regulatory focus), and stronger levels of job satisfaction emerge. Considering the cultural transformation that the company in Study Two is trying to achieve, these results and implications will be useful as the company considers ways to support the behaviors they want to see in employees. The desired behaviors do include focusing on successes not failures, and related to the culture, the company wants to be a place employees want to pursue their careers in, recommend to other future employees, and be an engaged and satisfied workforce.

#### *Limitations*

This research study, as do all, comes with flaws. Study One did not include a sample of long-term professionals which may be more attached to their jobs or working in chosen career paths, and may have been instead employed at a myriad of places to get through school, thus impacting their job satisfaction and employment tenure projections. Study Two participants work within an industry where the products are scrutinized by millions of customers each day, which impacts their behavior and encourages perfection and “excellence”, sometimes even to the extreme which may have resulted in inaccurate self-reports of performance as a face-saving behavior.

First, considering the measures themselves, common method bias may influence the results as all study measures were self-report surveys. The performance measures are not pure performance measures, but rather subjective performance appraisal measures used by the company and provided by a single manager introducing human judgment, politics, and likely error. In addition, we then relied on self-report of performance ratings, increasing the opportunity for measurement error. In addition, study one had less power, especially when analyses focused on the comparison of adaptive vs. maladaptive perfectionists.

The MPS measure used across both studies was examined for its factor structure in Study One which did not produce the exact factor structure found in the original measure, though it was comparable. Hawkins, Watt, and Sinclair (2006) supported their hypothesis that the MPS has four factors instead of six, but did so using a unique population of adolescent females. They also determined through cluster analysis that in their sample, Personal Standards was high for both groups of adaptive and maladaptive perfectionists, therefore not making it a distinguishing factor. Due to the entanglement of the definition of perfectionism with the available measures, it is possible that the MPS measure has different factor structures in different situations, one of those situations may be with non-clinical populations.

In Study Two, new constraints were found which are not uncommon when using an applied real-world sample of employees which contributes to the generalizability of these results. To observe company norms and protocol when surveying employees we were constrained to survey non-Executives, which led to restriction of range in the level groups used. When partnering with a global company, additional limitations occur which

impacted the study such as being unable to request gender or ethnicity data, identify participants to verify demographics, or include all of the measures used with the student sample. In this particular sample, the population was by design only one job type, software engineers, and a job type which happens to be a field traditionally dominated with males, which may have limited the results. Additionally, though job performance ratings in the company are well-known by individuals, there appears to have either been misrepresentation of performance ratings intentionally or perhaps lower performers were less inclined to participate. From other internal research where job performance is mapped on the back-end there are not typically differences in response rates by job performance scores. Therefore, it is more likely that lower performers misrepresented their performance ratings as higher than they really were (Commitment Rating and Contribution Ranking), causing a restriction in range and inaccuracy of the performance measure used.

Considering also the company culture in which this study was conducted is useful to understanding its generalizability to other companies. This company is well-known for its products and also its internal culture of being the 'best and brightest' professionals, yet informal and casual, self-critical, extremely hard-working to the point of widespread work-life balance issues, internal support for quantitative research and yet skepticism of results usage. It is possible that this company attracts a specific type of employee, overly saturated with key characteristics which impacted the population we sampled from.

#### *Future Research*

In future research with this company it would be possible to replicate the study but be able to correct for any performance measure issues. In the future, we could pre-

code performance ratings using the 9-box method by conducting nine separate surveys to better identify the impact of perfectionism on job performance. Within each survey, the performance rating questions could also be asked to determine the possible level of dishonesty that occurred in our study.

From measurement implications, to applied questions addressing selection and generalizability, the future is rich to develop and extend the findings showcased here. Additional research is likely necessary to truly separate the definition of perfectionism from its measures. As indicated here, the MPS measure has historically been used in research assuming the original six-factor structure, but research with non-clinical populations (here, Hawkins et al., 2006) may support a four-factor model. Therefore, the measurement research can and should focus on a broad-based study of the measure and normal populations to determine if the factor structure differs based on population or if a universal factor structure should be applied.

Future research in this area is recommended to determine if other models or definitions of perfectionism can be applied and useful in predicting employee performance. One limitation we faced was to make the survey palatable in length for the employees, which limited the choice to one perfectionism measure. It is possible that the definitions and results of the other well-known Multidimensional Perfectionism Measure (with Socially Prescribed Perfectionism, Other Oriented Perfectionism, and Self Oriented Perfectionism) may show similar results when modified for use in an organizational setting. Future research of observable behavior, more objective performance measures or even case study accounts of performance are recommended to extend research in this area to corroborate these results. For example, replicating the study or extending the study

using a job type where objective performance measures exist (such as call centers, sales, etc.) may impact the results. While still on the topic of measurement, the statistics used to test the hypotheses were the most parsimonious ways to address them. Certainly future research using actual objective performance measures and more complex modeling techniques would be useful to determine the possible combined impact of these variables.

Since this research originated, additional research about perfectionism in non-clinical domains has surfaced and has been published in such journals as the *APA's Monitor on Psychology*, *Psychological Bulletin*, *Personality and Individual Differences*, and *Journal of Counseling Psychology*. For example, Rice and Ashby (2007) used the APS-R measure used in Study One to publish cut-scores for their perfectionism measure developed from studies with university students. They also were able to support the notion that perfectionism is related to satisfaction with life such that maladaptive perfectionists were the least satisfied, nonperfectionists were somewhat satisfied and adaptive perfectionists were the most satisfied with life. Rice and Ashby also showed no gender or ethnicity differences in perfectionism. Future research should consider investigating the application of the new cut score criteria to working adult samples, and the linkage to life satisfaction with working adults.

When considering the future research linking perfectionism to other personal variables, Molnar, Reker, Culp, Sadava, and DeCourville (2006) have begun to show the relationship between perfectionism and health, conclusions they also indicate support the idea that perfectionism is a double-edged sword. Though health-related outcomes were not investigated here, it would be a good extension to consider, especially in light of the Rice and Ashby (2007) findings about life satisfaction. Molnar et al.'s (2006) research

using the three-factor Hewitt and Flett MPS measure indicated self-oriented perfectionism (which is thought to be more adaptive in this measure) is related to better physical health (number of sick days, relative health to others, and specific symptoms/problems) while a more maladaptive aspect measured by socially prescribed perfectionism is related to poorer physical health. Melamed, Shirom, Toker, Berliner, and Shapira (2006) recently published research showing the link between cardiovascular disease and work-related burnout. Certainly with the rising costs of healthcare that employers and employees are facing each year, extending research such as Melamed et al.'s research on physical health and burnout, the research on the links between depression and maladaptive aspects of perfectionism, the widespread research on depression and physical health, Molnar et al.'s (2006) research with physical health, and this current research with stress and burnout, we would serve to push the perfectionism line of research forward and have possible financial implications for companies if these were further explored. Perhaps companies who have a high prevalence of employees who are maladaptive which are more stressed and burned out, have more mental health issues (emotional stability, depression), and have more physical health problems are paying substantially more for their healthcare than other companies with more adaptive perfectionists.

While considering future uses of the Study Two results and associated research to support those uses, companies should be careful not to adjust selection processes based on this research alone as adverse impact has not been established and a criterion study has not been conducted, but support for these general relationships can serve as an impetus for future research in these areas. To truly consider these results as a starter for

selection research, more research is recommended across multiple job types, industries, countries, and the ability to examine gender and ethnicity differences. A step in this direction could come from the academic research starting with an experimental study which can generate artificial, but objective 'job performance' ratings and control for demographic factors, personality characteristics, or other individual difference variables.

### *Conclusion*

Overall, this research lends strong support for the use of perfectionism measures in non-clinical populations to identify adaptive and maladaptive perfectionists. More importantly, it serves to showcase that ***adaptive perfectionists can be a strength in the workplace***, more Conscientious, Agreeable, Emotionally Stable, less stressed and burned out, more focused on positive outcomes, and more satisfied with their company and jobs. ***Maladaptive perfectionism can be a weakness for a workplace.*** There can be a downside to perfectionism related to higher stress and burnout, focused on preventing failures instead of promoting future success, and lower job and company satisfaction.



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## Appendices

## Appendix A

## Perfectionism Measures

Multidimensional Perfectionism Scale (Frost, Marten, Lahart, &amp; Rosenblate, 1990)

<b>Dimension/Factor</b>	<b>Number of Items</b>
Concern Over Mistakes	9
Personal Standards	7
Parental Expectations	5
Parental Criticism	4
Doubts About Actions	4
Organization	6
<b>Total Scale</b>	<b>35 items</b>

<b>Number</b>	<b>Item</b>	<b>Subscale</b>
9.	If I fail at work/school, I am a failure as a person.	Concern Over Mistakes
10.	I should be upset if I make a mistake.	Concern Over Mistakes
13.	If someone does a task at work/school better than I, then I feel like I failed the whole task.	Concern Over Mistakes
14.	If I fail partly, it is as bad as being a complete failure.	Concern Over Mistakes
18.	I hate being less than the best at things.	Concern Over Mistakes
21.	People will probably think less of me if I make a mistake.	Concern Over Mistakes
23.	If I do not do as well as other people, it means I am an inferior human being.	Concern Over Mistakes
25.	If I do not do well all the time, people will not respect me.	Concern Over Mistakes
34.	The fewer mistakes I make, the more people will like me.	Concern Over Mistakes
4.	If I do not set the highest standards for myself, I am likely to end up a second-rate person.	Personal Standards
6.	It is important to me that I be thoroughly competent in everything I do.	Personal Standards
12.	I set higher goals than most people.	Personal Standards
16.	I am very good at focusing my efforts on attaining a goal.	Personal Standards

19.	I have extremely high goals.	Personal Standards
24.	Other people seem to accept lower standards from themselves than I do.	Personal Standards
30.	I expect higher performance in my daily tasks than most people.	Personal Standards
1.	My parents set very high standards for me.	Parental Expectations
11.	My parents wanted me to be the best at everything.	Parental Expectations
15.	Only outstanding performance is good enough in my family.	Parental Expectations
20.	My parents have expected excellence from me.	Parental Expectations
26.	My parents have always had higher expectations for my future than I have.	Parental Expectations
3.	As a child, I was punished for doing things less than perfect.	Parental Criticism
5.	My parents never tried to understand my mistakes.	Parental Criticism
22.	I never felt like I could meet my parents' expectations.	Parental Criticism
35.	I never felt like I could meet my parents' standards.	Parental Criticism
17.	Even when I do something very carefully, I often feel that it is not quite right.	Doubts About Actions
28.	I usually have doubts about the simple everyday things I do.	Doubts About Actions
32.	I tend to get behind in my work because I repeat things over and over.	Doubts About Actions
33.	It takes me a long time to do something "right".	Doubts About Actions
2.	Organization is very important to me.	Organization
7.	I am a neat person.	Organization
8.	I try to be an organized person.	Organization
27.	I try to be a neat person.	Organization
29.	Neatness is very important to me.	Organization
31.	I am an organized person.	Organization

Response Scale:

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree Nor Disagree

4 = Agree

5 = Strongly Agree

Almost Perfect Scale- Revised (Slaney, Rice, Mobley, Trippi, & Ashby, 2001)

### APS-R Short Form

#### Instructions:

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

Respond to each of the items using the scale below to describe your degree of agreement with each item.

#### Response Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Slightly Disagree
- 4 = Neutral
- 5 = Slightly Agree
- 6 = Agree
- 7 = Strongly Agree

1. I have high standards for my performance at work or at school.
2. I am an orderly person.
3. I often feel frustrated because I can't meet my goals.
4. Neatness is important to me.
5. If you don't expect much out of yourself, you will never succeed.
6. My best just never seems to be good enough for me.
7. I think things should be put away in their place
8. I have high expectations for myself.
9. I rarely live up to my high standards.
10. I like to always be organized and disciplined.
11. Doing my best never seems to be enough.
12. I set very high standards for myself.
13. I am never satisfied with my accomplishments.
14. I expect the best from myself.
15. I often worry about not measuring up to my own expectations.
16. My performance rarely measures up to my standards.
17. I am not satisfied even when I know I have done my best.
18. I try to do my best at everything I do.
19. I am seldom able to meet my own high standards of performance.
20. I am hardly ever satisfied with my performance.
21. I hardly ever feel that what I've done is good enough.
22. I have a strong need to strive for excellence.
23. I often feel disappointment after completing a task because I know I could have done better.

Scoring -APS-R (s) short form found in Slaney et al. (2001)

Standards = 1, 5, 8, 12, 14, 18, 22,  
 Order = 2, 4, 7, 10,  
 Discrepancy = 3, 6, 9, 11, 13, 15, 16, 17, 19, 20, 21, 23,

Intended usage for this study mirrors Kottman and Ashby's (1999) method to determine maladaptive perfectionism categorization:

Perfectionists are identified when their scores on the Standards subscale are above the 67<sup>th</sup> percentile for the sample (top third). All others are Non-perfectionists for the study. Within the Perfectionists, (top 1/3 of Standards) to define the adaptive and maladaptive, it is based on a median split on the Discrepancy subscale. "Adaptive perfectionists were operationalized as persons with high personal standards and a low level of distress resulting from the discrepancy between their personal standards and their performance. Maladaptive perfectionists were operationalized as persons with high personal standards and high level of distress resulting from the discrepancy between their personal standards and performance."

The authors say this follows a format used in earlier studies (they reference: Ashby, Bieschke et al., 1997; Ashby and Kottman, 1996; Ashby, Kottman et al., 1998; Ashby, LoCiero et al., 1998).

The Adaptive/Maladaptive Perfectionism Scale (Rice & Preusser, 2002)

*(Items were altered to be applicable to the workplace, not the classroom. This is indicated by substituting the words in parentheses for the italic words.)*

Factor 1: Sensitivity to Mistakes

- 36. When I make a mistake, I feel so bad I want to *hide*. [be alone]
- 51. I become sad when I see a mistake *on my paper*. [in my work]
- 40. I get mad when I see a mistake *on my paper*. [in my work]
- 45. Mistakes are OK to make. (reverse coded)
- 21. I do not get *mad* if I make a mistake. [upset] (reverse coded)
- 11. Making one mistake is as bad as making ten mistakes.
- 59. I notice more what I do right than what I do wrong. (reverse coded)
- 14. I am fearful of making mistakes.
- 28. When one thing goes wrong, I wonder if I can do anything right.

Factor 2: Contingent Self-Esteem

- 54. After doing an *activity*, I feel *happy*. [project; satisfied]
- 37. Once I do well at something, I am pleased.
- 53. I never feel good about my work. (reverse code)
- 65. I like to share my ideas with others.
- 64. I like to help others after I do something well.
- 3. I feel *super* when I do well at something. [great]
- 60. My work is never done well enough to be praised. (reverse code)
- 24. I do not get excited when I do a good job. (reverse code)

Factor 3: Compulsiveness

- 55. I only like to do one task at a time.
- 19. I take a long time to do something because I check it many times.
- 42. I have certain places where I always put my things.
- 17. I like for things to always be in order.
- 61. I cannot relax until I have done all my work.
- 39. I always make a list of things and check them off after I do them.

Factor 4: Need for Admiration

- 58. I want to be perfect so that others will like me.
- 44. I do good work so that others think *I am great*. [positively about me]
- 20. I like to be praised for my work because then others will want to be like me.
- 49. I want to be known as the best at what I do.

Response Scale:

- 1 = really unlike me
- 2 = somewhat unlike me
- 3 = somewhat like me
- 4 = really like me

**Intended Usage for this Study:**

To determine Maladaptive factors: The AMPS is mostly used to identify maladaptive perfectionists rather than differentiate between the two. To test the hypotheses therefore, the classification method is more exploratory using the AMPS than a proven method from the assessment authors. A median-split was also used to classify participants into adaptive or maladaptive perfectionists using the AMPS by taking participants above the median on all four factors as maladaptive perfectionists, those above the 33<sup>rd</sup> percentile on all four factors but below the median as adaptive, and the remaining participants as nonperfectionists.

## Appendix B

### Outcome Measures

#### Perceived Stress Scale (Cohen, Kamarck, and Mermelstein, 1983)

Official items and instructions:

The questions in this scale ask you about your feelings and thoughts during the last month. In each case you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following alternatives:

- 0 = never
- 1 = almost never
- 2 = sometimes
- 3 = fairly often
- 4 = very often

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and "stressed"?
4. In the last month, how often have you successfully dealt with irritating life hassles?
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
6. In the last month, how often have you felt confident about your ability to handle your personal problems?
7. In the last month, how often have you felt that things were going your way?
8. In the last month, how often have you found that you could not cope with all the things that you had to do?
9. In the last month, how often have you been able to control irritations in your life?
10. In the last month, how often have you felt that you were on top of things?
11. In the last month, how often have you been angered because of things that happened that were outside of your control?
12. In the last month, how often have you found yourself thinking about things that you have to accomplish?
13. In the last month, how often have you been able to control the way you spend your time?
14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Official Scoring: Reverse-code items 4,5,6,7,9,10,13 and then sum across all 14 items.



### The Burnout Measure, Short Version (Malach-Pines, 2005)

#### Instructions:

Please use the following scale to answer the question: When you think about your work overall, how often do you feel the following?

1=never

2=almost never

3=rarely

4=sometimes

5=often

6=very often

7=always

Tired \_\_\_\_

Disappointed with people \_\_\_\_

Hopeless \_\_\_\_

Trapped \_\_\_\_

Helpless \_\_\_\_

Depressed \_\_\_\_

Physically weak/sickly \_\_\_\_

Worthless/Like a failure \_\_\_\_

Difficulties sleeping \_\_\_\_

“I’ve had it” \_\_\_\_

Official scoring and interpretation which will be used for this study:

In order to calculate the average burnout score we will sum the responses and divide by 10. The average is used to determine degree of burnout.

A score up to 2.4 indicates a very low level of burnout; a score between 2.5 and 3.4 indicates danger signs of burnout; a score between 3.5 and 4.4 indicates burnout; a score between 4.5 and 5.4 indicates a very serious problem of burnout. A score of 5.5 requires immediate professional help.

More generally, a score of 4 or above is burnout, and less than 4 is not.

### Job Satisfaction

*These items were asked in the both studies and were measured with items typically found on the annual employee survey from the company in Study Two:*

I expect to work for this Company for \_\_\_\_\_ more year(s).

- Less than one more year
- One to two more years
- Two to four more years
- Four to ten more years
- Ten years or more

I would recommend my Company as a great place to work.

Strongly Agree to Strongly Disagree (5-pt. scale)

Considering everything, how satisfied are you with your job?

- Very satisfied
- Satisfied
- Neither satisfied nor dissatisfied
- Dissatisfied
- Very dissatisfied

## Appendix C

### Individual Difference Measures

#### Regulatory Focus (Park, Hinsz, & Nickell, 2005)

##### Promotion-General:

I typically focus on the successes I hope to achieve in the future.  
 I frequently think about how I will achieve my hopes and goals.  
 I often think about the person I would ideally like to be in the future.  
 I often imagine myself experiencing good things in the future.  
 Overall, I am more oriented toward achieving success than preventing failure.

##### Promotion-Work:

I often think about how I will achieve success at work.  
 I primarily strive to fulfill my duties, responsibilities, and obligations at work.  
 I am focused on achieving positive outcomes at work.  
 I feel like I have made progress toward being successful at work.  
 When I think about my job, I generally think about how I can do it better.

##### Prevention-General:

In general, I am focused on preventing negative events in my life.  
 I often think about the person I don't want to become in the future.  
 When I think about the future, I often imagine myself experiencing bad things.  
 I have always been concerned about being safe and careful in life.  
 I often think about my potential failures and shortcomings.

##### Prevention-Work:

I worry that I will fall short of my responsibilities and obligations at work.  
 I often worry that I will fail to accomplish my work goals.  
 My major goal at work is to avoid becoming a failure.  
 I frequently think about how I can prevent failures at work.  
 At work, I am more concerned about preventing bad outcomes than I am towards achieving good outcomes.

Response scale: 1= not at all true of me to 7=completely true of me

Workaholism Battery (McMillan, Brady, O'Driscoll, & Marsh, 2002)

Enjoyment:

My job is so interesting that it often doesn't seem like work.

My job is more fun than work.

Most of the time my work is very pleasurable.

Sometimes when I get up in the morning I can hardly wait to get to work.

I like my work more than most people do.

I seldom find anything to enjoy about my work. (reverse scored)

I do more work than is expected of me strictly for the fun of it.

Drive:

I seem to have an inner compulsion to work hard.

It's important to me to work hard, even when I don't enjoy what I'm doing.

I often feel there is something inside me that drives me to work hard.

I feel obligated to work hard even when it's not enjoyable.

I often find myself thinking about work, even when I want to get away from it for awhile.

Between my job and other activities I'm involved in I don't have much free time.

I felt guilty when I take time off work.

Scale and Scoring: Strongly Agree (4) to Strongly Disagree (0) which are then added to yield a total score for each scale.

Personality measure (International Personality Item Pool, 2001)

Instructions:

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in the bubble that corresponds to the number on the scale.

Response Scale:

Very Inaccurate

Moderately Inaccurate

Neither Inaccurate nor Accurate

Moderately Accurate

Very Accurate

Positive keyed:	Negative Keyed:
Factor 1 Extraversion ( $\alpha = .87$ )	
Am the life of the party.	Don't talk a lot.
Feel comfortable around people.	Keep in the background.
Start conversations.	Have little to say.
Talk to a lot of different people at parties.	Don't like to draw attention to myself.
Don't mind being the center of attention.	Am quiet around strangers.
Factor 2: Agreeableness ( $\alpha = .82$ )	
Am interested in people.	Am not really interested in others.
Sympathize with others' feelings.	Insult people.
Have a soft heart.	Am not interested in other people's problems.
Take time out for others.	Feel little concern for others.
Feel others' emotions.	
Make people feel at ease.	
Factor 3: Conscientiousness ( $\alpha = .79$ )	
Am always prepared.	Leave my belongings around.
Pay attention to details.	Make a mess of things.
Get chores done right away.	Often forget to put things back in their proper place.
Like order.	Shirk my duties.
Follow a schedule.	
Am exacting in my work.	
Factor 4: Emotional Stability/Neuroticism ( $\alpha = .86$ )	
Am relaxed most of the time.	Get stressed out easily.
Seldom feel blue.	Worry about things.
	Am easily disturbed.
	Get upset easily.

	Change my mood a lot. Have frequent mood swings. Get irritated easily. Often feel blue.
Factor 5: Openness ( $\alpha = .84$ )	
Have a rich vocabulary.	Have difficulty understanding abstract ideas.
Have a vivid imagination.	Am not interested in abstract ideas.
Have excellent ideas.	Do not have a good imagination.
Am quick to understand things.	
Use difficult words.	
Spend time reflecting on things.	
Am full of ideas.	

#### Scoring:

For positive keyed items, the response "Very Inaccurate" is assigned a value of 1, "Moderately Accurate" a value of 2, "Neither Inaccurate nor Accurate" a 3, "Moderately Accurate" a 4, and "Very Accurate" a value of 5.

For negative keyed items, the response scale is reversed: "Very Inaccurate" is assigned a value of 5, "Moderately Accurate" a value of 4, "Neither Inaccurate nor Accurate" a 3, "Moderately Accurate" a 2, and "Very Accurate" a value of 1.

The total scale score is then obtained.

## Appendix C

## Demographics

*Study One:*

What is your tenure with the company in years?

0-2

2-4

4-6

6-10

10+

## Gender:

Male or Female

## Ethnicity:

African American

American Indian or Alaskan Native

Asian or Pacific Islander

Caucasian

Hispanic or Latino(a)

Multi-Racial

## Current Job Area/Industry:

Administrative/Support Services

Advertising/Marketing

Agriculture/Farming

Automotive

Construction/Maintenance/Facilities

Consulting

Customer Service

Education/Child Care

Finance/Accounting

Healthcare

Hotel/Hospitality

Human Resources

Information Technology

Insurance

Legal

Manufacturing

Real Estate

Restaurant

Retail

Sales

Security

Telemarketing

Other:

What is your Job Title?

What is your Major?

After graduation, do you intend to continue to work for your current employer?

Yes

No

Not Sure

After graduation, do you intend to continue in the same job for your current employer?

Yes

No

Not Sure

What is your Age?

18-21

22-25

26-29

30-33

34-37

38-41

42 or above

How many hours do you work per week?

0-19 (should be excluded from study)

20-24

25-29

30-34

35-39

40-44

45-49

50+

What is your college GPA?

What year are you in school?

Freshman/first

Sophomore/second

Junior/third

Senior/four or more

Graduate Student

*Study Two:*

What is your tenure with the company in years?

0-2

2-4

4-6

6-10

10+



Current Job Level:

0-55

56-59

60-64

65-67

68-70

80+

Engineering Sub-Discipline (as indicated by the company's listings):

Test

SDET

Developer

Program Management

Product Management

Other:

## Appendix D

### Description of Company's Job Performance Measures

#### Performance Measure Sample:

Performance review scores are based on the following scale definitions and are included in the annual review form.

Each respondent in the second study will self-report their most recent review score.

#### Prior to June 2006 Performance Definitions:

Rating	Definition
5.0	Exceptional performance rarely achieved. Marked by precedent-setting results beyond the scope of the position. Demonstrates the highest standards of performance excellence, including results achieved and demonstration of company values, relative to individuals with comparable levels of responsibility.
4.5	Consistently exceeds all position requirements and expectations. Accomplishments are highly valued and may be well beyond the scope of the position. Demonstrates higher standards of performance excellence, including results achieved and demonstration of company values, relative to individuals with comparable levels of responsibility.
4.0	Consistently exceeds most position requirements and expectations. Accomplishments are often noteworthy. Overall performance is consistently above levels of quality and quantity, including results achieved and demonstration of company values, relative to individuals with comparable levels of responsibility.
3.5	Exceeds some position requirements and expectations. Successfully accomplishes all objectives. Overall performance consistently matches levels of quality and quantity, including results achieved and demonstration of company values, relative to individuals with comparable levels of responsibility.
3.0	Meets most or all position requirements and expectations. Accomplishes most or all objectives. Some skills may require additional development to match levels of quality and quantity, in results achieved or the demonstration of company values, relative to individuals with comparable levels of responsibility.
2.5	Falls below performance standards and expectations of the job. Demonstrates one or more performance deficiencies that hinder acceptable performance, in results achieved or demonstration of company values, relative to individuals with comparable levels of responsibility.

June 2006 Performance Review Commitment Rating (used in Study Two as self-report from what the employee's official rating was):

Rating	Description
Exceeded	<p>Results relevant to one's job and level exceeded expectations.</p> <p>Achieved all commitments and exceptional results that surpassed expectations.</p> <p>Consistently delivered the highest level of performance.</p> <p>Demonstrated all competencies required for the position.</p>
Achieved	<p>Results relevant to one's job and level consistently achieved and sometimes exceeded expectations.</p> <p>Achieved all commitments and expected results.</p> <p>Delivered the typical level of performance for the job.</p> <p>Demonstrated most competencies required for the position.</p>
Underperformed	<p>Results relevant to one's job and level sometimes, but not consistently, achieved.</p> <p>Failed to achieve a significant or multiple commitments and/or expected results.</p> <p>Performed below the typical level of performance for the job.</p> <p>Demonstrated some of the competencies required for the position.</p> <p>Performance improvement required in one or more areas.</p>

June 2006 Contribution Ranking Definitions (used in Study Two as self-report from what the employee's official rating was):

Ranking	Description
Outstanding	<p>Demonstrates potential to advance faster than average as a leader; either as a People Manager and/or as an individual contributor; preferably multiple levels or two career stages</p> <p>Past performance suggests capability of delivering exceptional results over the long-term</p> <p>Competencies typically are at or above expected levels</p>
Strong	<p>Demonstrates potential at minimum to broaden in one's role or to advance one career stage or level as a leader; either as a People Manager and/or as an individual contributor</p> <p>Past performance suggests capability of delivering consistent and significant contributions over the long-term</p> <p>Competencies typically are at expected levels</p>
Limited	<p>Demonstrates limited potential to advance or grow typically because of one of the two situations:</p>

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**Situation 1**

- Employee is currently under performing against commitments and immediate performance improvement is required
- Demonstrates limited potential to broaden one's role or to advance
- Competencies typically are at or below expected levels
- Past performance suggest marginal long term contributions

Limited  
(continued)

**Situation 2**

- Consistent performer who has met expectations
- Most likely to remain at current career stage; minimal opportunity to broaden one's role or to advance
- Competencies typically are at expected levels
- Past performance suggests consistent contributions

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Prior to June 2006 (original proposal):

Self-Report of Current Stock Class:

A

B

C

D

Unsure