

PERFECTIONISM AND POSITIVE AND NEGATIVE OUTCOMES:  
CAN ACHIEVEMENT MOTIVATION AND CONSCIENTIOUSNESS ACCOUNT FOR  
“ADAPTIVE” PERFECTIONISM?

by

Jonathan Shael Blasberg

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## **Abstract**

We explored the assertion some have made that perfectionism can be adaptive (see J. Stoeber & K. Otto, 2006). Others have considered that what has been called adaptive perfectionism resembles a combination of achievement motivation and conscientiousness (P. L. Hewitt & G. L. Flett, 2008; T. Greenspon, 2000) but this has yet to be tested empirically. In a sample of 273 university students we found that three previously used operationalizations of “adaptive” perfectionism failed to correlate positively with self-esteem or life satisfaction. “Adaptive” perfectionism did correlate with positive affect, but when achievement motivation and conscientiousness were covaried the relationship ceased to be significant. “Adaptive” perfectionism also correlated with increased symptoms of depression and anxiety. Because some have conceptualized “adaptive” perfectionism as a interaction between high standard setting and low ideal-actual performance discrepancy (K. G. Rice & J. S. Ashby, 2007), we used a regression analysis to test for this interaction and found it did not significantly predict positive affect, life satisfaction and self-esteem. The implications of these findings are discussed.

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*To Sabrina,  
perfect for me.*

## **Introduction**

Over the last few decades perfectionism has become an increasingly important variable for researchers interested in how personality traits contribute to individual wellbeing and distress. Since Horney (1950) first talked of perfectionists' neurotic need to live up to an unrealistically idealized image of perfection, researchers have attempted to conceptualize the construct of perfectionism, identify its component parts, and understand how the need to be perfect relates to other personality traits and life outcomes.

### **Conceptualizations of Perfectionism**

Although early descriptions of perfectionism focused on unidimensional cognitive conceptualizations (e.g., Burns, 1989; Hollender, 1965; Missildine, 1963), in the 1990s two different multidimensional conceptualizations emerged that dominated the literature. Frost, Marten, Lahart and Rosenblate (1990) conceived of perfectionism as primarily involving perfectionistic attitudes and beliefs. They described six stable, trait-like, attitudinal components: excessive concern over making mistakes, indecisiveness and doubting of one's actions, setting of high personal standards, the perception of high parental expectations and high parental criticism, and concern with neatness and organization.

Hewitt, Flett, and colleagues developed a multifaceted conceptualization of perfectionism that included perfectionistic traits, perfectionistic self-presentational aspects, and information processing components (Flett, Hewitt, Blankstein & Gray, 1998; Hewitt & Flett, 1991a; Hewitt et al., 2003; Hewitt & Genest, 1990). In this model, three trait dimensions of perfectionism were proposed including self-oriented, other-oriented and socially-prescribed perfectionism. Self-oriented perfectionism reflects a drive or need for one's own perfection, other-oriented perfectionism reflects a need for others to be perfect, and socially-prescribed perfectionism involves the perception that others demand perfection of oneself (Hewitt & Flett, 1991a). Hewitt

and Flett also describe the interpersonal expression of perfectionism involving self-presentational aspects that involve a need to appear perfect by promoting oneself as perfect and avoiding displays and/or disclosures of imperfection (Hewitt et al., 2003). They also describe an intrapersonal component involving ruminative cognitions about perfectionistic performance (Flett et al., 1998).

From these two conceptualizations of perfectionism, two trait measures were developed, both, coincidentally, named the Multidimensional Perfectionism Scale (F-MPS, Frost et al., 1990; MPS, Hewitt & Flett, 1991a). Both have been used extensively (Enns & Cox, 2002) and this research has demonstrated strong associations between particular perfectionism dimensions and psychopathology including depression (Frost et al., 1990; Hewitt & Flett, 1991a, 1991b, 1993), obsessive compulsive disorder (Frost et al., 1990; Rheume, Freeston, Dugas, Letarte & Ladouceur, 1995), anorexia nervosa (Bastiani, Rao, Weltzin & Kaye, 1995; Cockell et al., 2002; Nilson et al., 2008), social anxiety (Alden, Bieling & Wallace, 1994; Juster, Heimberg, Frost & Holt, 1996) and suicidal ideation and attempts (Hewitt, Flett & Weber, 1994; Hewitt, Norton, Flett, Callander & Cowan, 1998). Moreover, perfectionism trait dimensions have also been associated with other indicators of poor functioning in the domains of physical health, interpersonal relationships, and personal achievement. For example, individuals high in personal standards and concern over mistakes dimensions of perfectionism tend to report increased health problems including insomnia (Lundh, Broman, Hetta & Saboonchi, 1994) and both self-oriented and socially-prescribed perfectionism are associated with increased somatic complaints (Saboonchi & Lundh, 2003). Self-oriented perfectionists are also at higher risk of death in later life (Fry & Debats, 2009). Socially-prescribed perfectionists also report problems in their intimate relationships (Habke, Hewitt & Flett, 1999; Haring, Hewitt & Flett, 2003) and struggle

with procrastination and other achievement problems (Enns, Cox, Sareen & Freeman, 2001; Flett, Blankstein, Hewitt & Koledin, 1992; Frost & Marten, 1990).

Although initially both multidimensional perfectionism conceptualizations and measures were developed without much reference to whether perfectionism was explicitly adaptive or maladaptive, the research seems to have focused on maladaptive outcomes with powerful evidence that various dimensions of perfectionism are associated differentially with poor outcomes (see Flett & Hewitt, 2002). However, some have considered perfectionism as a construct that also includes adaptive aspects (e.g., Brown et al., 1999; Frost, Heimberg, Holt & Mattia, 1993; Bieling, Israeli & Antony, 2004) and others have proposed that there is even an adaptive type of perfectionism known variously as ‘adaptive perfectionism’ (Slaney, Rice, Mobley, Trippi & Ashby, 2001), ‘healthy perfectionism’ (Parker, 1997), ‘active perfectionism’ (Adkins & Parker, 1996), ‘functional perfectionism’ (Rheaume et al., 2000) and ‘positive perfectionism’ (Terry-Short, Owens, Slade & Dewey, 1995). This seems to stem from Hamachek (1978) who proposed the existence of both normal and neurotic perfectionists. Normal perfectionists are described by Hamachek as “skilled artists or careful workers... 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” whereas neurotic perfectionists are described as individuals who “demand of themselves a higher level of performance than is usually possible to attain” (p. 27). Several research groups have focused on the concept of “adaptive” perfectionism and suggested that in contrast to maladaptive or neurotic perfectionism, “adaptive” perfectionism involves striving for excellence and setting high standards for oneself, without experiencing distress when failing to live up to those standards (see Stoeber & Otto, 2006).

One conceptualization of adaptive and maladaptive perfectionism was proposed by Slaney and colleagues (2001) who divided the perfectionism construct into three dimensions



which represented both adaptive and maladaptive aspects. The setting of high personal standards and the need for order and organization were considered to be the core components of adaptive perfectionism; whereas the perception of a discrepancy between one's ideal and actual performance represents the maladaptive aspects of perfectionism. This is similar to other conceptualizations that consider adaptive perfectionism to involve striving for excellence and setting high standards, without experiencing negative reactions to imperfection (Lundh, 2004; Stoeber & Rambow, 2007) and others that separate perfectionism into two higher order dimensions that include adaptive striving for perfection or excellence and maladaptive evaluative concerns (Frost et al., 1993; Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000).

Slaney and colleagues (2001) developed the Almost Perfect Scale-Revised (APS-R) as a measure of both adaptive and maladaptive perfectionism according to their conceptualization. It includes a subscale measuring the setting of high personal standards (High Standards), a subscale measuring the need for order and organization (Order), and a subscale measuring the perceived discrepancy between one's ideal versus actual performance as a measure of the maladaptive aspects of perfectionism (Discrepancy). Using the APS-R, they have shown that setting high standards and a need for order are related to positive outcomes such as increased self-esteem (Accordino, Accordino & Slaney, 2000; Slaney et al., 2001), life satisfaction (Gilman, Ashby, Sverko, Florell & Varjas, 2005) and positive affect (Rice & Slaney, 2002). In contrast, discrepancy has been shown to correlate positively with symptoms of depression and anxiety and negatively with self-esteem and grade-point average (Slaney et al., 2001).

Others have used the two Multidimensional Perfectionism Scales (Frost et al., 1990; Hewitt and Flett, 1991a) to operationalize and measure "adaptive" perfectionism (e.g., Cox, Enns & Clara, 2002). Typically, "adaptive" perfectionism includes the personal standards dimension from the F-MPS and self-oriented perfectionism, either alone or in combination. Occasionally

the organization and/or other-oriented perfectionism dimensions are included as well. These various operationalizations of “adaptive” perfectionism have been shown to be positively associated with self-esteem (McCardle & Duda, 2008), life satisfaction (Chang, Watkins & Banks, 2004), and positive affect (Bieling, Israeli, Smith & Antony, 2003; Frost et al., 1993; Kobori & Tanno, 2005).

Although some have claimed these findings support a conceptualization of what they call “adaptive” perfectionism by showing that it is associated with positive outcomes (Stoeber and Otto, 2006), the research overall has been mixed with respect to the relationship between different operationalizations of “adaptive” perfectionism and positive outcomes. For example, while FMPS personal standards and self-oriented perfectionism have been shown to correlate with positive affect (Frost et al., 1993; Kobori & Tanno, 2005), this relationship has not always been found with self-oriented perfectionism (Kobori & Tanno, 2005; Saboonchi & Lundh, 2003). In addition, while the high standards subscale of the APS-R and self-oriented perfectionism have shown some positive relationships with self-esteem (e.g., Accordino et al., 2000; Trumpeter, Watson & O’Leary, 2006), the relationship between self-esteem and self-oriented perfectionism has typically been non-significant (Besser, Flett, Hewitt, Guez, 2008; Flett, Hewitt, Blankstein & O’Brien, 1991; Hewitt & Flett, 1991a) or negative (Bartsch, 2007).

“Adaptive” perfectionism seems to be a topic of interest for some researchers yet there remains much debate about whether perfectionism per se can be adaptive and whether “adaptive” perfectionism is a distinct construct or if it overlaps conceptually with other personality variables. First, Flett & Hewitt (2002) have suggested it may be too early to tell whether perfectionism is adaptive or not and more research is needed before we can fully evaluate the adaptiveness of perfectionism, especially given that most of the research is cross-sectional in nature (Stoeber & Otto, 2006). Second, others have argued that perfectionism is purely

maladaptive and that what others have conceptualized as adaptive perfectionism involves achievement striving, high standards, and conscientious attention to detail rather than perfectionism per se (Flett & Hewitt, 2006; Greenspon, 2000; Hewitt & Flett, 2008; Pacht, 1984). They argue that having high standards is not the same as having perfectionistic standards. Third, Hewitt and Flett (2008) suggest that “adaptive” perfectionism is more conceptually similar to a combination of conscientiousness and achievement motivation than it is to perfectionism. For example, individuals high in achievement striving and conscientiousness experience satisfaction with good performance, alter expectations in the face of failure, and are motivated by success (Burns, 1989; Hewitt & Flett, 2008). This is conceptually similar to individuals Hamachek (1978) described as normal perfectionists.

### **Focus of the Present Study**

This study seeks to explore whether perfectionism is associated with positive outcomes and whether what is called adaptive perfectionism is a clear and distinct construct from achievement motivation and conscientiousness. If perfectionism does have adaptive aspects then it should be positively associated with positive outcomes, and negatively associated with negative outcomes. According to Blatny, Jelinek, Blizkowska & Klimusova (2004), some common markers of psychological wellbeing include positive affect, self-esteem, and general life satisfaction. Negative outcomes should also be representative of common indicators of distress like symptoms of depression and anxiety and negative affect.

In addition, measures of “adaptive” perfectionism, if it is distinct from other personality variables, should predict positive outcomes uniquely beyond similar constructs such as achievement motivation and conscientiousness. Achievement motivation involves a dispositional inner drive to set high standards, strive for excellence and seek to accomplish difficult and challenging tasks (Atkinson, 1958) and conscientiousness is a personality trait that

involves being efficient, organized, thorough and precise (John & Srivastava, 1999). These two constructs have previously been considered conceptually similar to “adaptive” perfectionism. For example, Stoeber & Becker (2008) described adaptive perfectionism as “having high standards and striving for excellence” (p. 981) and Parker (1997) suggested that the definition of achievement motivation is “synonymous with how some would define adaptive perfectionism” (p. 547). Hewitt and Flett (2008) concluded that adaptive perfectionism is synonymous with conscientiousness and achievement motivation in that adaptive perfectionists, like conscientious, achievement-oriented individuals, “experience satisfaction with good performance” and are “motivated by desire for success” (p. 50). The F-MPS Personal Standards subscale, the APS-R High Standards subscale and the MPS’s Self-Oriented Perfectionism, as measures of “adaptive” perfectionism, have also been shown to correlate with both achievement motivation (Accordino, Accordino & Slaney, 2000; Einstein, Lovibond & Gaston, 2000; Frost & Henderson, 1991; Wang, Slaney & Rice, 2007) and conscientiousness (Cox, Enns & Clara, 2002; Dunkley, Blankstein, Zuroff, Lecce & Hui, 2006; Hill, McIntire & Bacharach, 1997) suggesting that there is some overlap among the three personality constructs. At this point, there is no research that has assessed whether “adaptive” perfectionism predicts outcomes beyond achievement motivation and conscientiousness which would support its conceptual distinction from these two similar personality constructs.

### **Other Operationalizations of Adaptive Perfectionism**

One of the challenges in accurately understanding whether perfectionism can be adaptive stems from a lack of consistency in the operationalization and measurement of the construct. While one of the most common approaches has been to use the APS-R specifically to measure “adaptive” perfectionism, some (e.g., Dunkley et al., 2000) have used several different combinations of subscales from the Hewitt & Flett (1991a) MPS and the Frost and colleagues’

(1990) F-MPS. In fact, the many different subscale combinations have created a conceptual confusion in the literature as to what is the best operationalization of “adaptive” perfectionism (Stoeber & Otto, 2006).

Some have argued that since setting high standards is core to the concept of adaptive perfectionism a simpler approach is to use either the High Standards subscale from the APS-R (e.g., Accordino et al., 2000) or the Personal Standards subscale from the F-MPS (e.g., Brown et al., 1999). Others have used the Self-Oriented Perfectionism subscale from the MPS (e.g., Davis, 1997; Klibert, Langhinrichsen-Rohling & Saito, 2005) as an individual measure of “adaptive” perfectionism even though there is research that suggests that self-oriented perfectionism is far more maladaptive than adaptive (Fry & Debats, 2009; Hewitt & Flett, 1991a,b; Hewitt, Flett & Ediger, 1996; Hewitt et al., 1998; Nilsson et al., 2008). In keeping with previous research, in this study we used the two standards-setting subscales from the F-MPS and APS-R as well as the self-oriented perfectionism subscale of the MPS as previously purported measures of “adaptive” perfectionism.

Although we have so far only considered main effects of “adaptive” perfectionism, some researchers have operationalized adaptive perfectionism in more complex ways (e.g., Rice & Ashby, 2007). There are a plethora of such operationalizations with slight differences but many involve dichotomizing individuals’ scores on the APS-R High Standards and Discrepancy subscales such that adaptive perfectionists score highly on the High Standards subscale but low on Discrepancy, and maladaptive perfectionists score high on both High Standards and Discrepancy subscales (Stoeber & Otto, 2006). In other words, perfectionism is related to adaptive outcomes when it involves setting high standards at low levels of perceived performance discrepancy and is related to maladaptive outcomes at high levels of discrepancy. This essentially describes an interaction effect whereby level of discrepancy moderates the

relationship between high standards and outcomes (see Baron & Kenny, 1986). Although others have dichotomized these variables based on mean, median or tertile splits, the most powerful test of an interaction, of course, would be to preserve the continuous nature of the variables rather than dichotomizing them (Aiken & West 1991; Cohen & Cohen, 1983; Maxwell & Delaney, 1993; MacCallum, Zhang, Preacher & Rucker, 2002; Pedhauzer, 1982) and use a multiplicative linear model to analyze the data (Baron & Kenny, 1986). This is a preferred strategy for a variety of reasons: First, this method retains more degrees of freedom making it more likely to detect an effect should one exist; second, dichotomizing variables discards valuable data that can be more informative if left in its original continuous form; third, dichotomization of two independent variables in an analysis can lead to spurious effects making it appear as if an interaction between two variables exists where it, in fact, does not (Maxwell & Delaney, 1993; MacCallum et al., 2002). Maxwell and Delaney (1993) outline that spurious interactions can be detected in 2x2 designs with dichotomized variables as a result of nonlinear relationships between one of the independent variables and the criterion. If the two predictors are correlated and one has a quadratic relationship with the dependent variable, an interaction will be detected by a 2x2 ANOVA even if the variables do not actually interact.

### **Expectations of the Current Study**

In this study we expect several findings with regards to the “adaptiveness” of perfectionism. First, it is expected that the two high standards measures and the self-oriented perfectionism measure will correlate with each other as measures of a similar construct. Second, we predict that previously reported associations between adaptive perfectionism, achievement motivation and conscientiousness will also be found. Third, if perfectionism is indeed adaptive we would expect to find positive correlations between adaptive perfectionism measures and life satisfaction, self-esteem and positive affect and negative correlations between adaptive

perfectionism and negative affect, anxiety and depressive symptoms. Fourth, if “adaptive” perfectionism is a unique entity, then it should predict increased positive outcomes over and above variance predicted by achievement motivation and conscientiousness. Fifth, if “adaptive” perfectionism can be operationalized as an interaction between high standards and discrepancy, then this interaction should significantly predict general indicators of wellbeing as well (i.e. life satisfaction, self-esteem, and positive affect) over and above any main effects that are found to exist. The nature of this interaction is that high levels of standards setting and high levels of discrepancy are associated with negative outcomes whereas high levels of standards setting and low levels of discrepancy are associated with positive outcomes.

## **Methodology**

### **Participants**

A sample of university students ( $n = 273$ , 205 females, 64 males, 4 did not report gender;  $M$  age = 20.1,  $SD = 2.51$ ) were recruited from a research participation pool and participated in the study in exchange for course credit. Sixty-eight percent identified themselves as being of Asian descent, whereas 32% were identified as Caucasian or other ethnic background. Eighty-seven percent of the participants were in their first or second year of university, with the rest in their third, fourth or fifth year.

### **Procedure**

After completing the informed consent process participants completed a questionnaire package and were debriefed on the nature of the research after returning the questionnaire. All procedures were subject to university and departmental level ethical review.

### **Measures**

The Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991a). The MPS is a multidimensional measure of perfectionism comprised of three 15-item subscales which are rated

on a seven-point Likert scale: Self-Oriented Perfectionism, which measures the need for one's self to be perfect (e.g., "I strive to be as perfect as I can be"), Other-Oriented Perfectionism, which measures the need for others to be perfect (e.g., "everything that others do must be of top-notch quality"), and Socially-Prescribed Perfectionism, which measures the perception that others require one's self to be perfect (e.g., "My family expects me to be perfect"). Normative data exists for clinical, community and student populations (Habke, Hewitt & Flett, 1999; Hewitt & Flett, 1991a; Hewitt, Flett, Turnbull-Donovan & Mikail, 1991). Coefficients alpha for the subscales in a university student sample ranged from .82 to .87 and three month test-retest reliabilities ranged from .75 to .88 suggesting the subscales are internally consistent and temporally stable (Hewitt & Flett, 1991a). Numerous studies have established convergent and discriminant validity. First, the three subscales correlate with other measures of perfectionism (Hewitt & Flett, 1991a; Frost et al., 1993). Second, the dimensions correlate differentially in expected directions with measures of high self-standards, narcissism and fear of negative evaluation (Hewitt & Flett, 1991a; Blankstein, Flett, Hewitt & Eng, 1993). Third, clinician and peer ratings of each perfectionism dimension correlate only with self-reports on the respective MPS subscales (Hewitt & Flett, 1991a). The subscales also do not show any evidence of being influenced by response bias (Hewitt & Flett, 1991a; Hewitt, Flett, Turnbull-Donovan & Mikail, 1991). Only the Self-Oriented Perfectionism subscale was used in the analysis (see Davis, 1997; Klibert, Langhinrichsen-Rohling & Saito, 2005).

The (Frost) Multidimensional Perfectionism Scale (F-MPS; Frost, Marten, Lahart & Rosenblate, 1990). The F-MPS is a 35-item self-report measure of six dimensions of perfectionism rated on a five-point scale: Concern over Mistakes (e.g., "I should be upset if I make a mistake"), Doubts about Actions (e.g., "I usually have doubts about the simple everyday things I do"), Personal Standards (e.g., "I set higher goals than most people"), Parental



Expectations (e.g., “My parents set very high standards for me”), Parental Criticism (e.g., “My parents never tried to understand my mistakes”), and Organization (e.g., “I am a neat person”). The measure has been validated for use with both genders (Parker & Adkins, 1995) and the internal factor structure has been replicated in several samples (Parker & Adkins, 1995; Parker & Stumpf, 1995). Internal consistency estimates for the subscales ranged from .77 to .93 (Frost et al., 1990) and ten-week test-retest reliabilities of .63 - .88 (Rice & Dellwo, 2001). All of the subscales (except for Organization) show moderate to strong correlations with similar measures of perfectionism and the subscales correlate in expected directions with measures of psychological functioning and adjustment (Frost et al., 1993; Frost et al., 1990). Only the Personal Standards subscale was used in this analysis as an operationalization of adaptive perfectionism (see Brown et al., 1999).

The Almost Perfect Scale-Revised (APS-R; Slaney et al., 2001). The APS-R is a 27-item self-report scale that is comprised of three subscales: Order measures general orderliness (e.g., “Neatness is important to me”), Discrepancy measures the discrepancy between one’s standards and one’s performance (e.g., “I rarely live up to my high standards”), and High Standards which measures the setting of high personal standards (“I set very high standards for myself”). Items are rated on a 7-point scale. As a measure of internal consistency, coefficients alpha ranged from .82 to .92 for the three subscales (Slaney et al., 2001). Moderate to strong ( $r$ 's of .23 to .55) correlations have been found between all three APS-R subscales and the Self-Oriented Perfectionism subscale of the MPS; Discrepancy was correlated with socially-prescribed perfectionism and High Standards with other-oriented perfectionism (Slaney et al., 2001). The Personal Standards subscale of the F-MPS and the High Standards subscale are also strongly related ( $r = .64$ ; Slaney et al., 2001). In addition, The F-MPS subscale Doubts About Actions was related to the Discrepancy subscale and Order was strongly related to Frost’s Organization

subscale (Slaney et al., 2001). As a measure of adaptive perfectionism, High Standards has been shown to correlate in expected directions with measures of self-esteem and grade point average (Slaney et al., 2001; Accordino et al., 2000; Rice, Ashby & Slaney, 2007).

The Ray-Lynn Achievement Motivation Scale (AM; Ray, 1979). The AM scale is a brief (14-item) measure of the Ray Achievement Motivation scale which measures an individual's drive for personal achievement and the tendency to strive for excellence. Items are in the form of Yes/No/I Don't Know questions such as "Are you an ambitious person?" and "Have you always worked hard in order to be among the best in your own field?" and seven of the items are reverse-scored. Coefficients alpha have ranged from .67 to .79 in multiple studies and ratings on this scale correlate with peer ratings of need for achievement and success orientation (Ray, 1979; Ward, 1995). Responses do not appear to be influenced by social desirability (Ray, 1979). The AM scale also correlates positively with other measures of achievement motivation (Ray, 1979).

Conscientiousness subscale of the Big Five Inventory (BFI; John, Donahue & Kentle, 1991). The BFI is a 44-item measure of the five-factor personality model including Conscientiousness, Openness to Experience, Agreeableness, Extraversion and Neuroticism. Only the Conscientiousness subscale was used in the analysis. Participants rate short phrases based on how much the statement is representative of them, that complete the sentence "I see myself as someone who... does a thorough job" or "does things efficiently." Items are rated from 1 (Disagree Strongly) to 5 (Agree Strongly). The Conscientiousness subscale is eight items in length, half of which are reverse-scored. John & Srivastava (1999) reviewed the psychometric properties of the BFI, confirmed its five-factor structure, and concluded it is both a valid and reliable measure in a variety of cultures and samples. They reported internal consistency at .82 and 3-month test-retest reliabilities from .80 to .90 depending on the subscale (John & Srivastava, 1999). The Conscientiousness subscale also shows excellent convergent validity

with other Big Five measures of conscientiousness ( $r$ 's from .89 - .96) and low correlations with the other four Big Five factors (John & Srivastava, 1999).

The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985). The SWLS is a brief, five item Likert-type scale (ranging from 1 to 7) measure of life satisfaction. Normative data is available for a wide variety of samples (see Pavot & Diener, 1993). Diener and colleagues (1985) found adequate item-total correlations (average  $r = .68$ ), although the last item ("if I could live my life over, I would change almost nothing") seems to converge the least with the other items (item-total  $r = .57$ ). Other studies of the SWLS's internal consistency found stronger item-total correlations (Arrindell, Meeuwesen & Huyse, 1991). Construct validity was assessed by examining the means of groups generally expected to have lower levels of life satisfaction (e.g., prisoners, psychiatric patients, students in poor and turbulent countries, and abused women). Generally lower levels of life satisfaction are observed in these groups as assessed by the SWLS. The SWLS has also been shown to be negatively correlated to clinical measures of distress (Blais, Vallerand, Pelletier & Briere, 1989) and positively correlated to measures of positive affect (George, 1991).

The Positive and Negative Affect Scale (PANAS; Watson, Clark & Tellegen, 1988). The PANAS is comprised of two scales, one measuring the degree of positive affective experience and the other measuring the degree of negative affective experience. Participants rate emotionally descriptive adjectives (e.g., excited, proud, jittery, etc.) from 1 (very slightly) to 5 (extremely) based on the degree to which they feel that way in the immediate present. A high score indicates a greater degree of positive or negative affectivity, depending on the subscale. Both the Positive and Negative Affect scales have excellent internal consistency ( $\alpha = .89$  and  $.85$  respectively) and are relatively stable over time (Watson, Clark & Tellegen, 1988). 8-week test-retest reliability showed moderate stability for both scales when participants were instructed to

rate their experience in the present moment ( $r = .54$  for positive affect,  $.45$  for negative affect); however, when the instructions were reworded to reflect a general response, the correlations increased significantly to  $.68$  and  $.71$  respectively. The Positive and Negative Affect subscales show respective positive and negative correlations with anxiety and depression and the subscales are inversely correlated with each other (Watson, Clark & Tellegen, 1988).

Beck Anxiety Inventory (BAI; Beck, Epstein, Brown & Steer, 1988). The BAI is a 21-item self-report inventory measuring symptoms of anxiety. Participants place checkmarks under statements reflecting how much participants have been bothered by different symptoms of anxiety (e.g., feelings of choking, unable to relax, shaky) in the past week. Items are scored from 0 (“not at all”) to 3 (“severely I could barely stand it”). It has excellent internal consistency ( $\alpha = .92$ ; Beck et al., 1988; Hewitt & Norton, 1993) and good test-retest reliability (Beck et al., 1988). It is capable of discriminating between anxious and non-anxious diagnostic groups and is moderately correlated with other measures of anxiety suggesting the BAI shows good construct validity (Beck et al., 1988).

Beck Depression Inventory-II (BDI; Beck, Steer & Brown, 1996). The BDI is a well-known, 21-item self-report inventory measuring symptoms of depression. Each item is comprised of 4 statements representing ascending (rated from 0 as lowest to 3 highest) degrees of depressive symptomatology in 21 different symptom domains including: guilty feelings, loss of interest, irritability, and changes in appetite. For example, Item 18 includes statements ranging from 0: “my appetite is no worse than usual” to 3: “I have no appetite at all anymore”. Participants are instructed to circle the statement that best reflects how they have been feeling in the past week including that day. Appropriate norms exist for use with a nonclinical university sample (Steer & Clark, 1997). The BDI-II is both stable and internally consistent: coefficient alpha was reported to be  $.93$  for a college student sample and one-week test-retest reliability in a

small ( $n = 26$ ) outpatient sample was also .93 (Beck, Steer & Brown, 1996). Another study also found high levels of internal reliability for both men and women (Dozois, Dobson & Ahnberg, 1998). The BDI can discriminate between depressed and non-depressed individuals as well as between anxious and depressed individuals (Beck, Steer & Brown, 1996).

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). The RSES is a Guttman scale comprised of ten statements relating to global self-esteem. Items are worded generally to avoid capturing domain-specific self-esteem (e.g., "I take a positive attitude toward myself"). Five of the items are negatively keyed and five are positively keyed and are rated from strongly disagree (0) to strongly agree (3). Vispoel, Boo and Bleiler (2001) report that assessments of the internal consistency of the RSES generally found coefficients alpha of .72 to .88 and 1-week and 7-month test-retest reliabilities of .82 and .67, respectively. It correlates positively with other measures of self-esteem and positive self-attitudes (Robins, Hendin & Trzesniewski, 2001) and it is considered one of the most widely used and empirically validated measures of global self-esteem (Byrne, 1996).

## **Results**

Means, standard deviations and coefficients alpha are given for each measure in Table 1. All means, standard deviations and alpha are consistent with previously reported values (Creamer, Foran & Bell, 1995; Flett, Sawatzky & Hewitt, 1995; Hewitt & Flett, 1991a; Pavot & Diener, 1993; Peterson, Casillas & Robbins, 2006; Ray, 1979; Steer & Clark, 1997; Wang, Slaney & Rice, 2007; Vispoel, Boo & Bleiler, 2001; Watson, Tellegen & Clark, 1988). Although the Achievement Motivation scale shows a marginally lower level of internal consistency than usually acceptable (Nunally, 1978), it is within the range of previously reported coefficients alpha (.67 to .79) in other samples (Ray, 1979).

### **Intercorrelations among Perfectionism and Relations with other Personality Variables**

Correlations among study measures are reported in Table 2. As expected, self-oriented perfectionism, high standards and personal standards were all strongly and positively correlated with each other. The intercorrelations with the three measures of “adaptive” perfectionism ranged from .64 to .71 suggesting a significant degree of overlap supporting the idea that the three measures do tap a similar construct.

Also in line with our expectations, achievement motivation and conscientiousness were strongly related to each other and moderately to strongly related to the two personal standards measures and self-oriented perfectionism, suggesting that achievement motivation and conscientiousness are similar to each other and that there is some overlap among these constructs.

### **Associations with Positive Outcomes**

The two high standards measures and self-oriented perfectionism were also correlated with some, but not all, positive outcomes. Neither the personal standards nor self-oriented perfectionism correlated positively with self-esteem or life satisfaction. In fact, self-oriented perfectionism correlated negatively with self-esteem, which is more consistent with a maladaptive conceptualization of perfectionism. All three measures did correlate positively with positive affect suggesting perfectionism does seem to be modestly associated with increased positive affect.

### **Associations with Negative Outcomes**

Contrary to expectations for measures of “adaptive” perfectionism, the two personal standards measures and the self-oriented perfectionism measure were positively correlated with indicators of negative outcomes. The two personal standards measures and self-oriented perfectionism correlated with symptoms of depression and anxiety. None of the measures

correlated significantly with negative affect, although self-oriented perfectionism approached significance ( $r = .11$ ,  $p = .06$ ). The perfectionism and personal standards measures correlated with two out of three measures of poor psychological adjustment. Instead of an expected association with adaptive outcomes, it seems that self-oriented perfectionism and the personal standards measures are more uniformly maladaptive.

These findings suggest that the personal standards and perfectionism measures are fairly similar to each other and to achievement motivation and conscientiousness. In addition, the operationalizations of adaptive perfectionism were associated with only one of the three positive outcome measures, and to two of the three negative outcomes, suggesting these markers of adaptive perfectionism are not broadly related to measures of wellbeing and adjustment and appear to be more maladaptive than adaptive.

#### **Analyses Controlling for Achievement Motivation and Conscientiousness**

In order to determine whether the relationship between positive affect and the measures of personal standards and perfectionism was due to overlap with conscientiousness and achievement motivation, a hierarchical regression analysis was used. With positive affect as the dependent variable, achievement motivation and conscientiousness were entered into the first block of the regression model, with personal standards, high standards and self-oriented perfectionism entered into the second block<sup>1</sup>. The results of these analyses are presented in Table 3. The first block was significant accounting for 11% of the variance in positive affect scores, with both achievement motivation and conscientiousness accounting for unique variance; however, neither personal standards, high standards, nor self-oriented perfectionism significantly contributed unique variance in positive affect scores over and above achievement motivation and conscientiousness. This supports the idea that what others have termed to be adaptive perfectionism is not different than achievement motivation and conscientiousness in predicting

positive affect and suggests that after controlling for achievement motivation and conscientiousness, none of the “adaptive” perfectionism measures predicted unique variance in any of the outcomes.

### **Interaction between High Standards and Discrepancy in Predicting Positive Outcomes**

In order to determine whether the relationship between high standards and adaptive outcomes varied as a function of discrepancy scores, a regression analysis to test the interaction between high standards and discrepancy was performed for each of the positive dependent variables. This analysis is described by Baron & Kenny (1986) as a method for testing if a moderator variable (discrepancy) alters the relationship between an independent variable (high standards) and one or more dependent variables (i.e., positive affect, life satisfaction, self-esteem). An interaction product vector was created by multiplying each High Standards score by its respective Discrepancy score. High standards and discrepancy subscales were entered in the first block of a hierarchical regression equation as main effects. The product vector was entered into the second block as the interaction effect. Results from these analyses are presented in Table 4. As main effects in the first block, both high standards and discrepancy emerged as unique predictors of all dependent variables, accounting for 35% of the variance in self-esteem scores, 14% of the variance in positive affect, and 16% of the variance in life satisfaction. However, the interaction was not significant in predicting positive affect, satisfaction with life and positive self-esteem, suggesting that the relationship between high standards and positive outcomes did not vary as a function of discrepancy. There was no evidence that individuals with high standards and low discrepancy related to positive outcomes differently than individuals with high standards and high discrepancy.



## **Discussion**

This study examined the relationship of three operationalizations of “adaptive” perfectionism and their relationship to positive and negative outcomes. Where the “adaptive” perfectionism measures were related to positive outcomes, we tested whether this was due to overlap with achievement motivation and conscientiousness. The measures of “adaptive” perfectionism correlated positively with one of three positive outcomes and two of three negative outcomes. Regression analyses suggested that the relationship with positive affect was accounted for by achievement motivation and conscientiousness. Lastly, the most powerful test of how some have conceptualized perfectionism’s relationship to adaptive and maladaptive outcomes, a test of the interaction between high standards and discrepancy, was nonsignificant with regards to predicting life satisfaction, self-esteem and positive affect. These results add to the evidence against an adaptive conceptualization of perfectionism, and suggest that some relationships between perfectionism and positive outcomes are better conceptualized as overlap between certain aspects of perfectionism and achievement motivation and conscientiousness.

### **Perfectionism, Achievement Motivation and Conscientiousness**

The constructs of achievement motivation, conscientiousness and “adaptive” perfectionism seem to overlap both conceptually and statistically. “Adaptive” perfectionism, achievement motivation, and conscientiousness have all been conceptualized as involving striving for excellence, setting high standards and paying meticulous attention to detail (Hamachek, 1978; Parker, 1997, Stoeber & Becker, 2008). In this study, our finding that these three constructs were all highly correlated supports this empirically. While some have considered this evidence for the adaptiveness of perfectionism (Accordino et al., 2000; Stumpf & Parker, 2000) others have suggested this similarity is due to overlap among “adaptive”

perfectionism, conscientiousness and achievement motivation, rather than evidence of “adaptive” perfectionism as a distinct construct (Greenspon, 2000; Hewitt & Flett, 2008).

Our finding that although all three measures of “adaptive” perfectionism were associated with positive affect, this relationship failed to hold when achievement motivation and conscientiousness were covaried provides some empirical support for the argument that “adaptive” perfectionism is not a distinct construct from achievement motivation and conscientiousness. In contrast, our findings that achievement motivation and conscientiousness correlated strongly with increased self-esteem, life satisfaction and positive affect suggests that these two variables have relatively more adaptive characteristics. Given that “adaptive” perfectionism does not uniquely predict any positive outcomes in this sample and does not seem to be distinct from other similar variables, it may be more useful to try to understand perfectionism in terms of its qualitative characteristics rather than in terms of its adaptiveness or maladaptiveness.

Perfectionism has been described as a form of overconscientiousness or hyperconscientiousness (Flett & Hewitt, 2006). This fits well with our findings of shared variance between conscientiousness and the “adaptive” perfectionism measures. A recent study also suggests conscientiousness longitudinally predicts increases in self-oriented perfectionism but not vice-versa (Stoeber, Otto & Dalbert, 2009). Some other evidence supporting this comes from an experimental manipulation of a measure of Big Five factors including conscientiousness (Haigler & Widiger, 2001). The authors found that when Big Five items were modified to be more extreme (e.g., the item “I keep my belongings neat and clean” became “I keep my belongings excessively neat and clean”) the new Conscientiousness subscale correlated positively with compulsivity, a frequent concomitant of perfectionism (e.g., Frost et al., 1990; Rheaume, et al., 2000). It would be interesting to compare Haigler and Widiger’s extreme

version of the Big Five with measures of perfectionism and assess the similarity between the two constructs. However, it is important to note that perfectionism has been shown to be sufficiently distinct from conscientiousness. Individuals can be high in self-oriented perfectionism and low in conscientiousness (O'Connor & O'Connor, 2004) and aspects of perfectionism that researchers have labeled as maladaptive have generally correlated negatively with conscientiousness or not at all (Enns et al., 2001). Given this, it may be hasty to classify perfectionism as lying along a continuum with conscientiousness. Perfectionism may in fact be qualitatively different from conscientiousness. For example, perfectionism has been conceptualized as involving a self-critical evaluative style (Hewitt & Flett, 1991a; Missildine, 1963) that is characterized by a preoccupation with making mistakes (Frost et al., 1990) and a tendency to set unrealistically high standards (Hewitt & Flett, 2008), whereas conscientiousness has been described as involving aspects of achievement striving, order, impulse-control and reliability (Roberts, Chernyshenko, Stark & Goldberg, 2005).

It is important to consider these conceptual issues carefully. In their treatise on the importance of conceptual analysis in psychology, Machado & Silva (2007) describe a common conceptual error in research known as the nominal fallacy, which refers to the idea that naming a construct fails to accurately describe or explain it. This may at least partially be the case in the literature exploring the adaptiveness of perfectionism. There exists a large amount of research in the perfectionism literature that simply examines the relationships between perfectionism and psychological variables without taking adequate care to establish the conceptual identity of the constructs being measured, or to consider whether the relationships found represent an actual link between two unique constructs or overlap between two similar ones.

Several studies have claimed support for “adaptive” perfectionism by demonstrating relationships between “adaptive” perfectionism dimensions and conscientiousness (Enns et al.,

2001; Cox, Enns & Clara, 2002) and achievement motivation (Accordino et al., 2000) without considering the conceptual overlap among these constructs, despite the fact that similarities among “adaptive” perfectionism, conscientiousness and achievement motivation have previously been highlighted in literature describing and defining adaptive perfectionism (Parker, 1997; Stoeber & Becker, 2008). Stoeber and Otto (2006) do consider this in their review of evidence supporting the conceptualization of “adaptive” perfectionism by suggesting that correlational evidence should be weighted based on the degree of conceptual similarity between the outcome measure and the perfectionism construct when evaluating the adaptiveness of perfectionism. Furthermore, they go on to suggest that the term “adaptive” is misplaced given the term adaptive generally means having the capacity to adjust to environmental conditions. They suggest the current literature has not yet shown how perfectionism might be adaptive in this sense (Stoeber & Otto, 2006).

### **Perfectionism and Positive Outcomes**

One criterion of the adaptiveness of perfectionism would be a strong and consistent demonstration of associations between “adaptive” perfectionism and broad indicators of subjective wellbeing. The findings of the current study do not support a conceptualization of perfectionism as adaptive based on relationships with life satisfaction, self-esteem and positive affect. Although other researchers have reported correlations between life satisfaction and “adaptive” perfectionism, the results have not generalized to all populations or all domains of life satisfaction (Chang, Watkins & Banks, 2004; Gilman et al., 2005). The relationship has been found in Caucasian, but not African-American, females (Chang, Watkins & Banks, 2004) and more generally in American and Croatian students (Gilman et al., 2005). However, when Gilman and colleagues examined domain-specific satisfaction (i.e. satisfaction with family, friends, school, living environment and self), only satisfaction with school performance was

significantly related to “adaptive” perfectionism across both samples. Setting challenging goals has been previously linked with increased academic performance (e.g., Campbell & Furrer, 1995), so it is not surprising that perfectionism measures that mainly capture high standard setting would show a relationship with school performance satisfaction. However, when considering the relationship to life satisfaction in a broader sense, perfectionism fails to show consistent, generalizable results. Our findings do not support any relationship between perfectionism and life satisfaction.

The two personal standards measures did not show any relationship with self-esteem, and self-oriented perfectionism showed a negative relationship that is inconsistent with the concept of adaptive perfectionism. Most studies looking at the relationship between self-esteem and self-oriented perfectionism have found few significant effects (Besser, Flett, Hewitt, Guez, 2008; Flett, Hewitt, Blankstein & O’Brien, 1991; Hewitt & Flett, 1991a) although Bartsch (2007) did report a negative correlation between self-esteem and self-oriented perfectionism. This may be due to the fact that a self-oriented perfectionist’s self-esteem seems to be contingent on evaluations of their performance which may fluctuate over time (Dibartolo, Frost, Chang, LaSota & Grills, 2004). The negative correlation between self-oriented perfectionism and self-esteem may be related to a tendency for self-oriented perfectionists to be more focused on mistakes than on the positive aspects of their performance (Hewitt & Flett, 2008). Self-oriented perfectionism also correlates with self-criticism (Hewitt & Flett, 1991a), which may have a direct deflationary effect on self-esteem (e.g., Dunkley & Grilo, 2007).

The adaptiveness of a personality characteristic implies a causal relationship, in that a given trait causes people to adjust better to their environment, this adjustment is expressed by direct relationships with indicators of wellbeing. Hill (1965) proposed several criteria that should be met in order to consider a variable as being causally linked to positive or negative

outcomes. The most relevant of these criteria are as follows: first, the dependent variable must covary significantly with the indicator measure; second, there must be evidence of temporal precedence, i.e. the dependent variable must precede the indicator chronologically; and third, the relationship between the dependent variable and the indicator must not be accounted for by any other alternate explanations or extraneous variables. Except for the first criterion, the evidence supporting an adaptive conceptualization of perfectionism falls short of these requirements. The majority of the evidence in favour of “adaptive” perfectionism is cross-sectional in nature, and previous longitudinal studies examining the adaptiveness of perfectionism have failed to support relationships with adaptive outcomes (Enns et al., 2001; Stoeber, Stoll, Pescheck & Otto, 2008). Further, in this study we showed that where there was covariation between “adaptive” perfectionism measures and positive affect, it was better accounted for by achievement motivation and conscientiousness. Until perfectionism can be shown to reliably predict positive outcomes longitudinally while accounting for other related variables it should not be considered adaptive.

### **Perfectionism and Negative Outcomes**

In exploring the relationships between “adaptive” perfectionism and negative outcomes, consistent relationships were found between the “adaptive” perfectionism measures and depression and anxiety, suggesting these aspects of perfectionism are related to more maladaptive outcomes than adaptive ones. The fact that all three operationalizations of “adaptive” perfectionism correlated positively with depression and anxiety is not completely surprising and has been reported in previous studies (Bieling, Israeli & Antony, 2004; Hill et al., 2004; Lynd-Stevenson & Hearne, 1999). Further supporting the link between perfectionism and negative outcomes, the evidence for the maladaptiveness of “adaptive” self-oriented perfectionism has been established both longitudinally (e.g., Hewitt, Flett & Ediger, 1996) and

uniquely beyond other personality variables (Sherry, Hewitt, Flett, Lee-Baggely & Hall, 2007). For example, Hewitt, Flett & Ediger (1996) found that self-oriented perfectionism interacted with achievement stressors to predict depression. Sherry and colleagues (2007) found that self-oriented perfectionism uniquely predicted a compulsive personality style over and above gender and the big five markers.

A common interpretation of this evidence among those who support the conceptualization of perfectionism as adaptive, is that correlations between “adaptive” perfectionism and maladaptive outcomes are due to overlap between the adaptive and maladaptive components of perfectionism (Stoeber & Otto, 2006). They imply that after maladaptive perfectionism is controlled for, what remains is “adaptive” perfectionism. Using the correlational evidence from previously reported studies in their review, Stoeber & Otto (2006) partialled out the influence of maladaptive perfectionism where “adaptive” perfectionism was related to negative outcomes. They found in many cases the relationships with depression, anxiety and other negative outcomes disappeared.

This interpretation is flawed when one considers that the term “adaptive” is inexorably intertwined with the nature of the environment that a given trait exists within. If individuals who strive for high standards are at the same time more likely to experience excessive concern over mistakes, then it is difficult to consider evidence that controls for this as evidence of the adaptiveness of perfectionism. An alternative interpretation of this is that when you remove all of the variance attributable to a core concept of perfectionism (e.g., concern over mistakes) from a peripheral concept (i.e., personal standards), what is left over is related to positive outcomes, but this is no longer perfectionism. That is, by covarying perfectionism out of adaptive perfectionism, the nature of what remains is not clear. It is possible that what is left over is a combination of achievement motivation and conscientiousness.

## **Interactions between High Standards and Discrepancy in Predicting Positive Outcomes**

Given that others have conceptualized and operationalized perfectionism in more complex ways beyond simple main effects and have instead suggested that the relationship between high standards and positive outcomes is dependent on levels of perceived performance discrepancy (e.g., Rice & Ashby, 2007; Rice & Slaney, 2002), it was important to assess the adaptiveness of perfectionism from this perspective as well. For example, Rice and Ashby (2007) found that individuals classified as being high standards-setters with low levels of perceived actual-ideal performance discrepancy reported higher levels of life satisfaction than individuals with high levels of standards setting and high levels of discrepancy. Rice and Slaney (2002) used cluster analysis to identify groups of high standard setting individuals who scored either low (adaptive perfectionists) or high (maladaptive perfectionists) on discrepancy. Rice and Slaney found that adaptive perfectionists had higher levels of self-esteem and positive affect compared to maladaptive perfectionists. These findings must be considered in light of the current findings but also in light of previous literature on the statistical problems associated with dichotomization and cluster analysis (Everitt, 1979; MacCallum et al., 2002; Maxwell & Delaney, 1993).

Our test of an interaction between the APS-R high standards and discrepancy subscales suggested the relationships among high standards and the positive outcome variables we tested did not vary at different levels of discrepancy, which is how adaptive versus maladaptive types of perfectionism are categorized by those who have proposed the existence of different types of perfectionist (e.g., Rice & Ashby, 2007). It may be that problems with a dichotomization approach are responsible for previous effects reported in the perfectionism literature. The use of “double-dichotomization” to classify individuals using cut-scores on two independent variables has been found to be problematic. Not only can it result in significantly reduced power to detect



a significant effect compared to regression approaches (MacCallum et al., 2002), the effects may vary spuriously depending upon if the predictors are correlated and whether there are any nonlinear relationships among the independent and dependent variables (Maxwell & Delaney, 1993). This casts a shadow of uncertainty over previous positive findings which use a cut-score or bivariate-split approach to classifying “adaptive” perfectionists.

Another popular technique in “adaptive” perfectionism research is the use of cluster analysis to identify adaptive and maladaptive perfectionists (Parker, 1997; Rice & Slaney, 2002). However, methodological and statistical issues have also been identified with the use of cluster analysis techniques (e.g., Everitt, 1979). The most relevant of which include the findings that different cluster analysis techniques yield significantly different results with the same data and that determining the number of appropriate clusters relies heavily on the researcher’s judgment and theoretical expectations (Everitt, 1972; 1979).

Even if previous research was not affected by the statistical issues outlined above and does not represent spurious effects, maintaining the continuous nature of the perfectionism subscales is a better fit with recent evidence supporting a dimensional conceptualization of perfectionism (Broman-Fulks, Hill & Green, 2008). Given this and the problems associated with previously used approaches, our findings using a regression approach represent a comparatively more robust test of the adaptiveness of perfectionism when conceptualized as a function of both high standards and perceived performance discrepancy. By using a regression approach we were able to maintain the continuous nature of the variables involved and thus also ensured maximum statistical power (Pedhauzer, 1982). Despite this, we did not detect a significant interaction effect in “adaptive” perfectionism predicting any positive outcomes.

The nature of the discrepancy variable might be responsible for positive effects that people have considered to be indicators of adaptive and maladaptive perfectionism. Discrepancy

has been conceptualized as representing the maladaptive aspect of perfectionism, as if it were an indicator of an enduring maladaptive perfectionism component. However, the construct of discrepancy represents a measure of perceived failure to live up to one's own standards, and may be more influenced by situational factors than it represents a purely dispositional variable. Under this conceptualization, adaptive perfectionists are those who strive for excellence and perceive themselves as having attained it, whereas maladaptive perfectionists strive for excellence and perceive failure. In some cases, discrepancy may be elevated because individuals actually are failing to meet their standards.

The relationship between high standards and discrepancy could explain how perfectionism as conceptualized by Slaney and colleagues (2001) relates to positive and negative outcomes. In this sample, discrepancy and high standards are moderately correlated ( $r = .32, p < .001$ ). The correlation between discrepancy and high standards has previously been reported as sometimes nonsignificant (Slaney et al., 2001; Ashby & Kottman, 1996; Grzegorek et al., 2004), sometimes significantly positive (Rice, Lopez & Vergara, 2005; Wang, Slaney & Rice, 2007) and sometimes significantly negative (Mobley, Slaney & Rice, 2005). In other words, setting high standards is only sometimes associated with the perception of not meeting those standards, and not always in the same direction. This instability in the relationship between High Standards and Discrepancy may reflect a conditional nature of the APS-R, in that adaptiveness or maladaptiveness seems to be based upon whether individuals are meeting their standards or not.

This may also reflect a significant problem with "adaptive" perfectionism research in general. Upon cross-sectional measurement, some perfectionists may not be experiencing marked distress because they have been able to meet their standards to some degree. However, that may change over time as they inevitably will fail to live up to their unrelenting and unrealistic standards eventually. For example, Parker (2002) found that a fairly large percentage

(24%) of individuals who were classified as “adaptive” perfectionists in one study were classified as “maladaptive” perfectionists in a second follow-up study with the same sample four years later. An almost equal number of “maladaptive” perfectionists switched into the “adaptive” group. This is an extremely important point because it suggests that “adaptive” perfectionism is not a stable category to which people belong permanently, and that what may be considered “adaptive” perfectionism at one point may be maladaptive in the future.

### **Future Directions and Current Limitations**

It is important to note that the current study is also cross-sectional in nature, and so the same limitations with regard to causality apply here as in previous research. Also, the fact that we did not find relationships with life satisfaction and self-esteem in this sample does not mean they do not exist as previously reported. However, because we failed to find positive zero-order correlations among the “adaptive” perfectionism measures, life satisfaction and self-esteem, it was inappropriate for us to test the role that conscientiousness and achievement motivation might play in accounting for those relationships. Finally, the use of a university sample limits the generalizability of this study, although the sample used is similar in makeup to many other studies in the perfectionism literature and in psychological research in general.

Future research could test if the relationships between positive outcomes and “adaptive” perfectionism still hold in the face of failure and other achievement-related stress, as previous research has demonstrated a significant interaction between self-oriented perfectionism and achievement stressors (Hewitt, Flett & Ediger, 1996), but this has not been replicated with other operationalizations of “adaptive” perfectionism. Ultimately, multiple replications of a longitudinal study design using a large community sample that controls for other constructs similar to perfectionism will be the best way to determine whether perfectionism truly can help individuals adapt to their environment. However, given the large body of research linking

perfectionism to maladaptive outcomes, unreliable findings with regards to links with life satisfaction and self-esteem, and evidence that suggests achievement motivation and conscientiousness account for the adaptiveness of perfectionism in predicting other positive outcomes, it may not be worth pursuing such a stringent methodology in the hopes of finding a few positive things to say about a personality variable as pernicious as perfectionism.

**Table 1**

Means, SDs and internal reliabilities of study measures

	<i>M</i>	<i>SD</i>	<i>α</i>
MPS Self-Oriented	68.00	14.60	.91
APS-R High Standards	35.38	6.23	.87
F-MPS Personal Standards	22.08	4.62	.77
BFI Conscientiousness	30.25	5.46	.79
Achievement Motivation	32.00	5.35	.69
Beck Depression	10.99	8.44	.90
Beck Anxiety	13.47	9.06	.88
PANAS Positive Affect	24.00	8.25	.90
PANAS Negative Affect	16.91	6.34	.84
Rosenberg Self-Esteem	29.31	4.83	.87
Satisfaction With Life	20.92	6.52	.88
APS-R Discrepancy	49.18	11.70	.91

Note. MPS = Multidimensional Perfectionism Scale, APS-R = Almost Perfect Scale-

Revised, F-MPS = Frost Multidimensional Perfectionism Scale, BFI = Big Five Inventory, PANAS = Positive and Negative Affect Scale.

**Table 2**

Intercorrelations between study measures

	1	2	3	4	5	6	7	8	9	10
1 MPS Self-Oriented										
2 APS-R High Standards	.70**									
3 F-MPS Personal Standards	.64**	.66**								
4 BFI Conscientiousness	.39**	.46**	.38**							
5 Achievement Motivation	.45**	.56**	.45**	.50**						
6 Rosenberg Self-Esteem	-.13*	.04	-.08	.29**	.28**					
7 Satisfaction With Life	-.06	.05	-.05	.26**	.18**	.66**				
8 PANAS Positive Affect	.13*	.23**	.14*	.30**	.28**	.45**	.42**			
9 Beck Depression	.23**	.13*	.16*	-.15*	-.15*	-.61**	-.48**	-.25**		
10 Beck Anxiety	.23**	.14*	.20*	-.13*	-.07	-.40**	-.27**	-.10	-.63**	

**Table 2 (continued)**

Intercorrelations between study measures

	1	2	3	4	5	6	7	8	9	10
11 PANAS Negative Affect	.11	-.01	.09	-.12*	-.13*	-.34**	-.30**	.00	.43**	.46**

Note. MPS Self-Oriented = Self-Oriented Perfectionism Subscale of the Multidimensional Perfectionism Scale, APS-R = Almost Perfect Scale-Revised, F-MPS = Frost Multidimensional Perfectionism Scale, BFI = Big Five Inventory, PANAS = Positive and Negative Affect Scale. *n*'s ranged from 225 to 273 due to casewise deletion. \*\**p* < .01, \**p* < .05 (2-tailed).

**Table 3**

Perfectionism measures predicting positive affect controlling for conscientiousness and achievement motivation

	B	s.e.	$\beta$	t	p	R <sup>2</sup> / $\Delta$ R <sup>2</sup>	F(2, 220) / $\Delta$ F(3, 217)
Step One						.11	13.82***
Conscientiousness	.31	.11	.21**	2.80	.01		
Ach. Motivation	.28	.11	.18*	2.45	.02		
Step Two						.01	.71, (p = .55)
Self-Oriented	-.06	.05	-.10	-1.06	.29		
Personal Standards	-.06	.16	-.03	-.35	.73		
High Standards	.18	.14	.14	1.32	.19		

Note. Ach. Motivation = Achievement Motivation, Self-Oriented = Self-Oriented Perfectionism.

\* p < .05, \*\* p < .01, p < .001, (2-tailed).



**Table 4**

Test for an interaction between High Standards and Discrepancy in predicting self-esteem,  
positive affect and life satisfaction

	B	s.e.	$\beta$	t	$R^2 / \Delta R^2$	$\Delta F$
<b>Predicting Self-Esteem</b>						
Step One					.35	72.36***
APS-R High Standards	.19	.04	.24**	4.68		
APS-R Discrepancy	-.26	.02	-.62**	-12.0		
Step Two					.00	.25, ns
High Standards x Discrepancy	.00	.00	.00	.50		
<b>Predicting Positive Affect</b>						
Step One					.14	22.04***
APS-R High Standards	.44	.08	.33**	5.54		
APS-R Discrepancy	-.22	.04	-.31**	-5.25		
Step Two					.00	.49, ns
High Standards x Discrepancy	.00	.01	.05	.70		

**Table 4 (continued)**

Test for an interaction between High Standards and Discrepancy in predicting self-esteem,  
positive affect and life satisfaction

	B	s.e.	$\beta$	t	$R^2 / \Delta R^2$	$\Delta F$
Predicting Life Satisfaction						
Step One					.16	27.60***
APS-R High Standards	.20	.06	.19**	3.28		
APS-R Discrepancy	-.24	.03	-.43**	-7.37		
Step Two					.00	.16, ns
High Standards x Discrepancy	.00	.01	.03	.41		

Note. APS-R = Almost Perfect Scale-Revised. \*\*\* $p < .001$ , \*\* $p < .01$ , ns = not significant (2-tailed).

### **Footnotes**

1. In order to ensure results weren't influenced by collinearity between the perfectionism measures, separate regression analyses were also run with each perfectionism measure entered separately in the second block. No significant effects were detected in all cases.
2. Due to a typographical error in an early printing of the questionnaire packages, responses on the Frost Multidimensional Perfectionism Scale were not scorable for 45 participants reducing the sample size in these analyses to between 228 and 225 via casewise deletion. Scores for all other measures were not affected.

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