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Self-Appraisals, Perfectionism, and Academics in College Undergraduates

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Virginia Commonwealth University

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Self-Appraisals, Perfectionism, and Academics in College Undergraduates

A dissertation proposal submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

by

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Abstract

SELF-APPRAISALS, PERFECTIONISM, AND ACADEMICS IN COLLEGE UNDERGRADUATES

By David E. Canter, Ph.D. Candidate

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2008

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The influences on perfectionism and procrastination of race, gender, cognitive-affective and academic self-appraisals, and academic performance expectations were studied. The sample consisted of 155 Introductory Psychology students (57 African Americans, 41 Asian Americans, and 57 European Americans; 51.6% women) with a mean age of 19.4 years ($SD = 3.6$). Data were collected during the final week of the Fall 2007 semester. Consistent with previous research indicating that men are more likely to procrastinate than women, men were over-represented in this sample. Self-esteem, measured with the Rosenberg (1965) Self-Esteem Scale, was conceptualized as having two components: self-liking and self-competence (Tafarodi & Milne, 2002). Guilt- and shame-proneness were measured with the Test of Self-Conscious Affect, Version 3, Short-form (TOSCA-3S; Tangney & Dearing, 2002). Academic self-confidence was measured with the
Personal Evaluation Inventory (Shrauger & Schohn, 1995). A number of single-item questions concerning aspects related to students’ Grade Point Average (GPA) were included. The High Standards and Discrepancy scales of the Almost Perfect Scale-Revised (APS-R; Slaney, Rice, Mobley, Trippi, & Ashby, 2001) represented the criterions of adaptive (AP) and maladaptive perfectionism (MP), respectively. The Aitken (1982) Procrastination Inventory was used as the criterion for procrastination. Components of self-esteem differentially predicted perfectionism. African Americans were significantly lower in shame-proneness. While there were non-perfectionists and AP’s/MP’s in each race and gender, African Americans were significantly higher in AP and Asian Americans were significantly higher in MP. Additionally, Asian American men were more likely to procrastinate. These results counter the “model minority” stereotype of Asian Americans, showing that they are at higher risk for personal and academic distress than their Black and White classmates. While women had higher GPA’s and were more likely to be AP’s, men had higher levels of academic self-confidence and expected to achieve higher GPA’s. Regardless of race or gender, students with GPA’s of 3.5 or higher (on a 4.0 scale) were more likely to be both types of perfectionists. Academic self-confidence was a significant positive predictor of AP and a negative predictor for MP and procrastination. This suggests that helping students improve their academic self-confidence could have many benefits.
Chapter 1

Introduction

“Perfectionism is a complex construct that reflects the interplay of cognitive, emotional, motivational, and behavioral factors and processes” (Flett & Hewitt, 2007, p. 234). While there have been a large number of perfectionism studies published, many relevant issues remain unresolved (Flett & Hewitt, 2002). For instance, relatively few studies have empirically investigated the underlying causes of the construct. Once valid and reliable instruments measuring perfectionism (e.g., the Frost, Marten, Lahart, & Rosenblate (1990) and Hewitt & Flett (1991) Multidimensional Perfectionism Scales) became available, researchers tended to examine the relationship between perfectionism and other constructs of interest, such as anxiety and depression. This trend has been noted by some, with calls to explore the etiology of perfectionism and then create instruments that pertain explicitly to these causes vice using measures that likely co-mingle cause and effect (Shafran & Mansell, 2001).

Flett and Hewitt (2002) reviewed a vast body of research indicating that perfectionism is linked to negative outcomes in a wide array of emotional and social realms. The prevalence of perfectionism has been found to be particularly high among college students (Rice & Ashby, 2007) and one study (Parker & Adkins, 1995) found that levels of perfectionism were higher in Honors students than regular students. Given the links between perfectionism and negative outcomes such as depression (Ashby, Rice, & Martin, 2006) and other research indicating that students higher in depression are less
likely to persist to graduation in college (Wintre & Bowers, 2007), the continued examination of perfectionism in college students is an important endeavor.

Relatively few perfectionism studies have examined differences among racial and ethnic groups. The vast body of perfectionism research to date has been conducted using predominantly European American/White female samples. Thus, it has also been common to not explore potential gender differences in the experiences and outcomes of perfectionism for college men.

One robust finding in the perfectionism literature has been its association with self-esteem. Research has found that “adaptive” perfectionists have higher self-esteem, on average, than “maladaptive” perfectionists and non-perfectionists (Stoeber & Otto, 2006). However, all of these studies have considered self-esteem to be a unidimensional construct. A number of researchers have expressed the value in considering self-esteem to consist of factors termed “self-liking” and “self-competence” (e.g., Mruk, 2006; Tafarodi & Swann, 1995; Tafarodi & Milne, 2002). For example, Bardone, Perez, Abramson, and Joiner, (2003) found a differential relationship between these two aspects of self-esteem and bulimic symptoms in college women. Thus, it is possible that differences between the aspects of self-esteem have differential relationships with positive and negative aspects of perfectionism.

Little research has been conducted to date exploring the impact of negative self-conscious emotions, such as shame and guilt, on perfectionism. The research that has been performed has indicated that shame in particular may be important in the relationship between perfectionism and depression, and that this difference varies
between women and men (Ashby et al., 2006). Thus, it appears that shame may be important factors in the understanding of perfectionism.

One behavioral manifestation of perfectionism in college students is procrastination, or deliberately avoiding and delaying the performance of academic tasks (Ferrari, 2004). However, the results of research have been inconsistent between different instruments and different samples. Also within the academic domain, only one study has been published to date (Parker & Adkins, 1995) that compares Honors Program students with regular students. Since Parker and Adkins found significant differences such that the Honors students were more likely to be perfectionistic, replication and extension of these results would be a valuable addition to this area of study.

The present study was designed to address a number of aforementioned concerns. A student sample was obtained at Virginia Commonwealth University, a large, public, urban university that is quite diverse in terms of racial and ethnic composition. A sample of 155 students was acquired via the Psychology Department research pool. This sample consisted of 57 African Americans, 41 Asian Americans, and 57 European American/White students. The sample was nearly balanced across gender, with 80 women and 75 men. These students were mostly (65.8%) traditionally-aged freshmen in their first semester of college.

Analyses were conducted to explore the impacts of race and gender, along with cognitive-affective self-evaluations, and academic domain self and parent evaluations on perfectionism and procrastination. Measures used included the Rosenberg (1965) self-esteem scale, the Test of Self-Conscious Affect, Version 3, Short form (TOSCA-3S;
Tangney & Dearing, 2002), Personal Evaluation Inventory academic confidence scale (PEI; Shrauger & Schohn, 1995), the Almost Perfect Scale, Revised (APS-R; Slaney, Rice, Mobley, Trippi, & Ashby, 2001), and the Aitken (1982) Procrastination Inventory. Additionally, demographics and a number of single-item questions relating to academics were collected. The APS-R High Standards and Discrepancy scales were used to represent adaptive and maladaptive perfectionism, respectively. Analyses were conducted on both dimensional (e.g., hierarchical multiple regressions) and group-based levels (e.g., chi square, MANOVA, and t tests) to investigate study questions.

Specific hypotheses came from the general propositions that race, gender, cognitive-affective, and academic domain-specific self and perceived parental evaluations would significantly, and differentially, predict adaptive and maladaptive perfectionism and procrastination. Additionally, it was hypothesized that there would be significant differences in perfectionism between low and high academically performing students such that students with higher GPA’s would be higher in both adaptive and maladaptive perfectionism compared to lower performing students. The results, as presented in Chapter 5 and discussed in Chapter 6, were generally supportive of the hypotheses.
Chapter 2

Review of the Literature

Introduction to Issues in Perfectionism Research

Perfectionism has been linked with a host of negative psychosocial outcomes. Among these negative outcomes are depression, anxiety, obsessive-compulsive disorder, and eating disorders. Although studies on various aspects of perfectionism have increased greatly since the 1990’s, a number of important questions have not been addressed empirically (Flett & Hewitt, 2002).

A basic issue concerns the fact that different researchers use different operational definitions to describe perfectionism. Currently, there is no agreed upon definition of perfectionism (Flett & Hewitt, 2002). This means that the literature on perfectionism has used a number of different definitions. Thus researchers must be aware of this feature and pay attention to the specific definition used in each study, as the definition used may impact the findings of the study. To provide the reader with a framework for the discussions that follow, some definitions will be given for the construct at this point (definitions taken from Flett & Hewitt, 2002, p. 14). Self-relevant aspects of perfectionism include normal (or adaptive) perfectionism and neurotic (or maladaptive) perfectionism. Normal perfectionism can be defined as “striving for reasonable and realistic standards that leads to self-satisfaction and enhanced self-esteem.” Neurotic perfectionism can be defined as “striving for excessively high standards due to fears of failure and concerns about disappointing others.” An aspect of perfectionism where the
self focuses on others, or other-oriented perfectionism, can be defined as having “exceedingly high standards for other people.”

Another top-level issue concerns whether perfectionism is a unidimensional or multidimensional construct. Unidimensional conceptualizations of perfectionism focus on cognitive factors such as irrational beliefs (Ellis, 1962) or dysfunctional attitudes (Burns, 1980; Weissman & Beck, 1978). Unidimensional approaches have been predominant in the eating disorder literature (Flett & Hewitt, 2002).

However, it appears that most contemporary perfectionism researchers view it as a multidimensional phenomenon. In fact, the two most widely used measures for perfectionism are both titled the Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1990, 1991). The Frost et al. (1990) version of the MPS has six factors; four that assess aspects of perfectionism directed toward the self and two that assess aspects of perfectionism reflecting the perceived presence of parental demands (Flett & Hewitt, 2002). The Hewitt and Flett (1990, 1991) version of the MPS has three dimensions: self-oriented, other-oriented, and socially prescribed perfectionism.

Another issue that remains unresolved in perfectionism research is whether perfectionism is always a maladaptive entity. Various researchers have conceptualized a bi-directional nature of perfectionism, with terms such as normal and neurotic perfectionism (Hamachek, 1978) and positive and negative perfectionism (Slade & Owens, 1998; Terry-Short, Owens, Slade, & Dewey, 1995). Normal perfectionism is characterized by the pursuit of reasonable and realistic standards, while neurotic
perfectionism is characterized by the pursuit of excessively high standards and it is motivated by fears of failure and worries over disappointing others (Flett & Hewitt, 2002).

Some researchers feel that it is important to examine the discrepancies between an individual’s perfectionistic standards and what they actually attain (or their perceptions about their attainments), that negative outcomes occur for individuals when there is a sufficiently large discrepancy between what they strive for and what they actually attain (Slaney, Rice, Mobley, Trippi, & Ashby, 2001).

Most of the research to date on perfectionism has treated it as a global personality trait (Flett & Hewitt, 2002). Thus research has not considered the possibility that a person may be perfectionistic only in one or a limited number of domains. One study, by Mitchelson and Burns (1998) found a significantly higher degree of perfectionism at work compared to at home. The possibility exists that a person may, for instance, be perfectionistic in their thinking and behavior in only one area and not globally in all domains.

There are several other unresolved issues in the study of perfectionism that relate to the concept of adaptive perfectionism (Flett & Hewitt, 2002). In adaptive perfectionism, a person has high standards, whereas excessive concern over mistakes would be characteristic of maladaptive perfectionism (Flett & Hewitt, 2002). Some research (see Parker, 1997; Rice & Mirzadeh, 2000) suggests that adaptive perfectionism may actually represent the personality trait of conscientiousness.
Another unanswered question is whether the distinction between adaptive and maladaptive perfectionism is best represented by categories or differences along a continuum (Flett & Hewitt, 2002). When considering perfectionism, do people differ by degree or by fundamental qualitative differences?

A final consideration discussed by Flett and Hewitt (2002) when considering adaptive perfectionism is the impact of life stress. Adaptive perfectionism has been linked with dysphoria when combined with negative life events (Flett, Hewitt, Blankstein, & Mosher, 1995; Hewitt & Flett, 1993; Hewitt, Flett, & Ediger, 1996; Joiner & Schmidt, 1995) and adaptive perfectionism has been linked with anxiety symptoms when people are in ego threatening situations (Flett, Hewitt, Endler, & Tassone, 1994-1995). These findings highlight the need to consider environmental factors and life circumstances when examining the adaptiveness of perfectionism for a given person at a given time in their life (Flett & Hewitt, 2002).

Perfectionism: An Evolving Construct

Long before the first instrument was developed to measure perfectionism, clinicians and theoreticians were writing about the topic. Many of these early writers made the distinction between “normal” (or adaptive) and “neurotic” (or maladaptive) perfectionism. Enns and Cox (2002) reviewed the work of Adler (1956), Burns (1980), Hamachek (1978), Hollender (1965), and Pacht (1984) to compile a list that provides the differences between adaptive and maladaptive perfectionism. This list is given below in Table 1.
Table 1

*Differences Between Maladaptive and Adaptive Perfectionism*

<table>
<thead>
<tr>
<th>Maladaptive Perfectionism</th>
<th>Adaptive Perfectionism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to experience pleasure from labors</td>
<td>Able to experience satisfaction or pleasure</td>
</tr>
<tr>
<td>Inflexibly high standards</td>
<td>Standards modified in accordance with the situation</td>
</tr>
<tr>
<td>Unrealistically or unreasonably high standards</td>
<td>Achievable standards</td>
</tr>
<tr>
<td>Overly generalized high standards</td>
<td>High standards are matched to the person’s limitations and strengths</td>
</tr>
<tr>
<td>Fear of failure</td>
<td>Striving for success</td>
</tr>
<tr>
<td>Focus on avoiding error</td>
<td>Focus on doing things right</td>
</tr>
<tr>
<td>Tense/anxious attitude toward tasks</td>
<td>Relaxed but careful attitude</td>
</tr>
<tr>
<td>Large gap between performance and standards</td>
<td>Reasonable match between attainable performance and standards</td>
</tr>
<tr>
<td>Sense of self-worth dependent on performance</td>
<td>Sense of self independent of performance</td>
</tr>
<tr>
<td>Associated with procrastination</td>
<td>Timely completion of tasks</td>
</tr>
<tr>
<td>Motivation to avoid negative consequences</td>
<td>Motivation to achieve positive feedback/rewards</td>
</tr>
<tr>
<td>Goals attained for self-enhancement</td>
<td>Goals attained for enhancement of the society</td>
</tr>
<tr>
<td>Failure associated with harsh self criticism</td>
<td>Failure associated with disappointment and renewed efforts</td>
</tr>
<tr>
<td>Black and white thinking: perfection versus failure</td>
<td>Balanced thinking</td>
</tr>
<tr>
<td>Belief that one <em>should</em> excel</td>
<td><em>Desire</em> to excel</td>
</tr>
<tr>
<td>“Compulsive” tendencies and doubting</td>
<td>Reasonable certainty about actions</td>
</tr>
</tbody>
</table>

*Note.* Table taken from Enns and Cox (2002, p. 51).

Review of Table 1 helps with an understanding of what is meant by “perfectionism.”

Clinicians historically encountered perfectionism when it led to negative outcomes.

People do not tend to seek out help for adaptive perfectionism. Thus the starting point for the study of perfectionism tended to focus on maladaptive perfectionism.

Contemporary conceptualizations of perfectionism have been linked with the development of instruments designed to measure the construct. Since 1980, the conceptualization of perfectionism has evolved from a unidimensional construct to a
multidimensional construct that considers intra- and interpersonal factors. The most recent developments in the conceptualization of perfectionism have added cognitive components, including consideration of the discrepancy between desired and perceived outcomes, and the cognitive processes of planfulness and rumination. The evolution of conceptual and measurement models of perfectionism will be discussed in the following sections.

*Burns Perfectionism Scale*

Burns (1980) created the first perfectionism scale. Burns described a perfectionist as a person “whose standards are high beyond reach or reason…who strains compulsively and unremittingly toward impossible goals and who measures his own worth entirely in terms of productivity and accomplishment” (Burns, 1980, p. 34). The Burns Perfectionism Scale (BPS) consisted of 10 items that were derived from Weissman and Beck’s (1978) Dysfunctional Attitudes Scale, which measured self-defeating attitudes associated with clinical depression and anxiety (Enns & Cox, 2002). The BPS has been criticized for having a unidimensional, maladaptive view of perfectionism (Enns & Cox, 2002). In addition, there have been few studies demonstrating the reliability and validity of this measure (Enns & Cox, 2002). These factors, combined with the advent of the multidimensional measures of perfectionism in the early 1990’s have led to little use of the BPS.

*Measures Developed to Study Eating Disorders*

Maladaptive perfectionism has been hypothesized to be a risk factor for the development of eating disorders (see Bruch, 1978; Slade, 1982). Consequently, the
Eating Disorders Inventory (EDI; Garner, Olmstead, & Polivy, 1983) has a six-item
perfectionism subscale. Analysis by Joiner and Schmidt (1995) found that three items
relate to self-oriented perfectionism and three items relate to socially prescribed
perfectionism, especially pertaining to the family of origin (Enns & Cox, 2002). The EDI
has been used primarily to study eating disorders, thus it’s reliability and validity with
other clinical conditions is not known.

Another measure in this area is the Setting Conditions for Anorexia Nervosa Scale
(SCANS; Slade, 1982). The SCANS is based on the theory that the combination of
perfectionism and dissatisfaction with life and oneself create the conditions that can lead
to an intense desire to control one’s body, which can lead to an eating disorder (Enns &
Cox, 2002). The reported internal consistency of the scale is relatively low and
predictive validity has not been established (Enns & Cox, 2002).

A third measure is the Neurotic Perfectionism Questionnaire (NPQ; Mitzman et
al., 1994). The NPQ was designed to measure maladaptive aspects of perfectionism,
especially those considered to be associated with eating disorders. The NPQ has 42 items
and has only been used in two studies, thus its reliability and validity has not been
adequately established (Enns & Cox, 2002).

**Frost Multidimensional Perfectionism Scale**

Frost and his colleagues (1990) created their measure, the Multidimensional
Perfectionism Scale (MPS-F; with the –F added to distinguish it from the version by
Hewitt and Flett, 1990), after reviewing the perfectionism literature. Their review
identified a number of features that they felt were important, including: excessively high
personal standards; excessive concern over mistakes in performance; doubting the quality of one’s performance; the role of the expectations and evaluation of one’s parents; and an exaggerated emphasis on precision, order, and organization (Enns & Cox, 2002).

Development of this measure led to 35 items with a six-factor solution. These six factors include: concern over mistakes (nine items), organization (six items); parental criticism (four items), parental expectations (five items), personal standards (seven items), and doubts about actions (four items). The total perfectionism score is obtained by adding the subscale scores except for organization, which had low intercorrelation with the other subscales. A large number of studies have been conducted using the MPS-F and they have demonstrated construct, concurrent, and discriminant validity of the measure (Enns & Cox, 2002). Enns and Cox (2002) find the MPS-F to be a relatively brief, yet comprehensive and psychometrically sound measure of six dimensions of perfectionism. They note, however, that there are no published reports of the measure’s test-retest reliability nor are there longitudinal studies demonstrating the predictive power of the measure. Finally, Enns and Cox (2002) note that the MPS-F is related broadly to psychopathology but evidence to date for diagnostic specificity is limited.

*Hewitt and Flett Multidimensional Perfectionism Scale*

Hewitt and Flett (1991) wanted to develop a measure of perfectionism that accounted for interpersonal effects that they felt were important in personal adjustment. Thus, the Hewitt and Flett Multidimensional Perfectionism Scale (MPS-HF; 1991) has three broad components of perfectionistic behavior: self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism. Self-oriented perfectionism
deals with the setting of excessively high standards and having perfectionistic motivation for oneself (Enns & Cox, 2002). Socially prescribed perfectionism addresses the perception that others hold excessively high standards for oneself and other-oriented perfectionism deals with the interpersonal aspect of one holding unrealistic standards of performance for significant others in their life (Enns & Cox, 2002).

The MPS-HF is a 45-item instrument with 15 items for each dimension. The MPS-HF has good internal consistency and three month test-retest reliability. Additionally, self-ratings with the MPS-HF were significantly correlated with observer ratings in college students and with clinicians in a sample of psychiatric patients (Enns & Cox, 2002).

One unfortunate aspect of the MPS-HF is that it is now copyrighted and only available via purchase. Previously, the MPS-HF had been available to researchers without charge from Hewitt. This may limit its use in future research studies.

In Hewitt and Flett (1991), socially prescribed perfectionism correlated significantly with fear of negative evaluation, need for approval, and external locus of control. Socially prescribed perfectionism, of the three MPS-HF dimensions, had the strongest relationship to Symptom Checklist-90 (SCL-90; Derogatis, 1983) symptom scales. In comparison to the Millon Clinical Multiaxial Inventory (MCMI; Millon, 1983), socially prescribed perfectionism was related to schizoid, avoidant and passive-aggressive dimensions, while other-oriented perfectionism was related to histrionic, narcissistic, and antisocial personality traits.
Elevated levels of self-oriented perfectionism appeared to have a specific link with depression. Flett, Hewitt, Blankstein and Mosher (1995) found that self-oriented perfectionism at time one predicted increases in depression symptoms three months later in college undergraduates who had experienced a major life event during that timeframe. Hewitt et al. (1994) found that both self-oriented and socially prescribed perfectionism were associated with suicidal ideation in both psychiatric patients and college students.

Overall, however, more maladaptive outcomes have been identified for socially prescribed perfectionism than for the other two dimensions of the MPS-HF. High levels of socially prescribed perfectionism have been associated with the frequency and intensity of professional distress and low job satisfaction in teachers (Flett, Hewitt, & Hallett, 1994). In a group of university students, Flett, Hewitt, and De Rosa (1996) found that higher socially prescribed perfectionism was associated with loneliness, fear of negative evaluation, lower levels of social self-esteem, and lower self-perceived social skills. Enns and Cox (2002) speculate that the reason for the self-oriented perfectionism subscale not being as broadly associated with dysfunction as the socially prescribed subscale may be because the self-oriented subscale has items reflecting both adaptive and maladaptive aspects of perfectionism.

Comparing the MPS-F and MPS-HF

The MPS-F and MPS-HF have been the most widely used and studied measures of perfectionism (Enns & Cox, 2002). The MPS-F has a strong intrapersonal focus while the MPS-HF has a stronger interpersonal focus (Enns & Cox, 2002). Enns and Cox (2002) provide data from four samples using both measures. The subscales of the two
measures correlate in ways one would expect, based on what they purport to measure. For example, the MPS-F subscales of parental expectations and parental criticism correlate strongly with the socially prescribed subscale of the MPS-HF. Thus, the two measures appear to have concurrent validity. However, most of the correlations between the subscales are only moderate in size, suggesting that the underlying perfectionism dimensions and constructs are distinct from one another (Enns & Cox, 2002).

Almost Perfect Scale

One of the main goals in the original development of the Almost Perfect Scale (APS; Slaney, Ashby, & Trippi, 1995) was to examine perfectionism in an unbiased way, allowing for “the possibility that perfectionism might have both positive and negative aspects” (Slaney et al., 1995, p. 281). Development of the APS led to a 32-item scale with four factors: high standards and order (12 items), relationships (12 items), procrastination (four items), and anxiety (four items). Although internal consistency and 2 and 4-week test-retest reliability were good, Enns and Cox (2002) note that some of the APS items, especially in the relationship scale, lack face validity for perfectionism. Discriminant validity was found in that all of the scales except relationships distinguished between perfectionists and non-perfectionists (Johnson & Slaney, 1996). In another study, the three maladaptive subscales, procrastination, anxiety, and relationship problems, were higher for college student adult children of alcoholics than for controls (Ashby, Mangine, & Slaney, 1995).

The original APS has subsequently been revised and expanded to include a 12-item discrepancy scale and the high standards and order scale has been separated into two
subscales (APS-R; Slaney, Mobley, Trippi, Ashby, & Johnson, 1996). The discrepancy subscale is designed to measure distress caused by the discrepancy between standards and actual performance. The relationship, procrastination, and anxiety scales are not included in the APS-R.

The validity of the APS-R for use with African Americans has been established (Mobley, Slaney, & Rice, 2005). In a review of perfectionism studies that jointly considered both positive and negative aspects of the construct, Stoeber and Otto (2006) identified 15 that used a dimensional approach, e.g. treated perfectionism as a continuous variable, and 20 that used a group-based, or typology approach (e.g., they classified participants as different types of perfectionists based on scale-score combinations). Of the group-based approaches, the APS-R was used in 14 of the 20 studies, while the MPS-F was used in five studies and the original APS was used in one study. This appears consistent with the fact that the APS was designed to measure both positive and negative aspects of perfectionism. The MPS-HF was not used in any of the group-based approaches. The number of studies using the APS-R is likely to increase since researchers (Rice & Ashby, 2007) have recently provided a straightforward and simple method of classifying participants into one of three perfectionism types: non-perfectionist, adaptive perfectionist, and maladaptive perfectionist.

The APS-R has also been used in a number of studies using a dimensional approach to data analysis. Wei and colleagues (e.g., Wei, Heppner, Mallen, Ku, Liao, & Wu, 2007; Wei, Heppner, Russell, & Young, 2006) have used the APS-R Discrepancy score to represent maladaptive perfectionism and have, in other studies, combined
Discrepancy with the MPS-F Concern over Mistakes and Doubts about Actions scales as latent variables representing maladaptive perfectionism in Structural Equation Models (SEM; e.g., Wei, Mallinckrodt, Russell, & Abraham, 2004; Wu & Wei, 2008). Additionally, Wu and Wei (2008) have used the APS-R High Standards and MPS-F Personal Standards scales as latent variables to represent adaptive perfectionism in SEM analyses.

**Criticisms of Current Conceptualizations of Perfectionism**

The current conceptualizations of perfectionism, as embodied in the measures previously described, have received some criticisms. Greenspon (2000) argues that there is no such thing as healthy or adaptive perfectionism. Greenspon (2000) believes that, due to its harshly negative self-talk, perfectionism is felt to be a burden by most people who experience it. This is supported by qualitative studies of perfectionists (Slaney & Ashby, 1996; Slaney, Chadha, Mobley, & Kennedy, 2000) that found most participants experienced their perfectionism as distressing and the source of their distress seemed to be the difference (or discrepancy) they saw between their standards and their actual (perceived) performance.

Regardless of the outcome of the argument about whether adaptive perfectionism exists, Shafran and Mansell (2001) point out that maladaptive/neurotic/negative perfectionism (depending on your descriptive term of choice) is the type primarily associated with psychopathology and is the type needing intervention and is the type that interferes with treatment progress.
Related to what perfectionism truly means, Shafran and Mansell (2001) believe that a number of subscales in the MPS-F and MPS-HF are not truly integral to the construct. Shafran and Mansell (2001, p. 887) feel that “It is undesirable for the construct of perfectionism to be determined by its measures; rather, the concept of perfectionism should be clearly defined and instruments devised to measure it.” Other researchers have noted similar ideas, questioning whether certain perfectionism scales are measuring the cause or the effect of perfectionism. Along these lines, Kawamura, Frost, and Harmatz (2002) did not include the MPS-F Organization, Parental Expectations, or Parental Criticism in their study of the relationship between parenting styles and perfectionism. Instead, they used specific parenting measures and only the Personal Standards, Doubts about Actions, and Concern over Mistakes scales from the MPS-HF. Rice and Slaney (2002) point out that a number of the perfectionism measure’s scales, especially the ones purporting to measure maladaptive perfectionism, may be measuring outcomes caused by perfectionism rather than measuring causes of perfectionism. Specific examples they offer include socially prescribed perfectionism (from the MPS-HF) and the anxiety and interpersonal problems scales from the original APS. Another possibility not yet mentioned in the literature is that a construct may be both a cause and an effect of perfectionism. Certain variables may help to initiate perfectionistic processes, and once these processes have begun, perfectionistic tendencies build upon the initial predilection in a cyclical, feedback process, thereby increasing the magnitude of the initial value.
A Two-Component Model of Perfectionism

Researchers look for the most parsimonious explanation of a phenomenon. This makes phenomena easier to understand and easier to research. Similarly, a more parsimonious explanation of the underlying nature of perfectionism would likely be of use to clinicians as they conceptualize the problem of perfectionism in their clients. Having a relatively simple explanation for perfectionism could aid in their treatment planning and guide their interventions with clients.

Alden, Ryder, and Mellings (2002) have suggested a parsimonious two-component model of perfectionism. Alden, Ryder, and Mellings (2002) come from a background of research on social anxiety, and they note that many believe that socially anxious people are perfectionists. This led the authors to review the social anxiety and perfectionism literatures. As a result of their review of the literature, they proposed a two-component model that they feel jointly explains social anxiety and perfectionism. Their model is shown schematically in Figure 1 (from Alden, Ryder, and Mellings, 2002, p. 385).
Maladaptive Self-Appraisal

Alden, Ryder, and Mellings (2002) state that pathological perfectionism is comprised of two elements, high performance expectations and high maladaptive self-appraisal.

Performance expectations reflect a “tendency to strive for or evaluate oneself in reference to high standards” (Alden, Ryder, & Mellings, 2002, p. 385). They follow the convention of Hewitt and Flett (1991) in saying that the high standards can be established by oneself or those perceived to be established by others. Maladaptive self-appraisal includes “a sense of personal inadequacy and neurotic self-doubt accompanied by a pathological self-appraisal system that operates to accentuate the significance of small behavioral disfluencies and internal sensations of anxiety” (Alden, Ryder, & Mellings, 2002, p. 385).

Alden, Ryder, and Mellings (2002) go on to say that this component has much in common with constructs such as neuroticism, low self-esteem, and low self-efficacy and that it is similar to the higher order perfectionism factor of maladaptive evaluation concerns (Frost et al., 1993).
Only persons high in both maladaptive self-appraisal and performance expectations would be classified as perfectionists. Alden, Ryder, and Mellings (2002) have chosen the label “self-acceptance” for persons who are low in maladaptive self-appraisal and performance standards; “achievement orientation” for persons low in maladaptive self-appraisal but high in performance expectations; and “self-deprecation” for persons high in maladaptive self-appraisal but low in performance expectations.

Persons characterized by maladaptive self-appraisal would display perseverative self-monitoring, self-doubt and deprecation, and fear of negative evaluation (Alden, Ryder, & Mellings, 2002). Alden, Ryder, and Mellings (2002) believe that achievement orientation is analogous to Hamachek’s (1978) “normal” perfectionism, which can be adaptive, and that “perfectionism” in their model is analogous to “neurotic” perfectionism, which is the pathological form of perfectionism associated with psychopathology. Thus, the labels in the top left and right quadrants of Figure 1 could be re-labeled as “adaptive perfectionism” and “maladaptive perfectionism,” respectively.

Although Figure 1 appears to indicate four distinct categories, Alden, Ryder, and Mellings (2002) believe that persons can have varying degrees of each component of the model. That is, they believe in a dimensional or continuum approach and the lines separating the components into four quadrants are merely intended as a conceptual aid.

Alden, Ryder, and Mellings (2002) propose that maladaptive self-appraisal is inherent to social anxiety but the tendency to compare oneself to high standards is independent of social anxiety. Referring to Figure 1, persons who are self-deprecating or perfectionists would be socially anxious.
Although this model purports to explain the relationship between social anxiety and perfectionism, the authors make no distinction that the model applies only to those who are socially anxious.

Although this model has not yet been directly tested empirically, there is partial support for the model structure from studies using the APS-R. Rice and Slaney (2002) used the APS-R to conduct cluster analysis of the perfectionism characteristics of study participants. This analysis identified three clusters of individuals: adaptive perfectionists, maladaptive perfectionists, and nonperfectionists. The three groups ended up being distinguished by the high standards and discrepancy scales.

The two perfectionist groups did not vary on order or high standards. Maladaptive perfectionists scored significantly higher on the discrepancy scale of the APS-R. Nonperfectionists had the lowest scores for order and high standards, but their discrepancy scores fell in between those of the adaptive and maladaptive perfectionists. There were no significant differences between adaptive perfectionists and nonperfectionists on a measure of anxiety, but both of these groups scored significantly lower than the maladaptive perfectionists (Rice & Slaney, 2002).

The implication of these findings for Alden, Ryder, and Mellings’ (2002) model are that it is may be that discrepancy vice merely high standards distinguishes between adaptive and maladaptive perfectionists. The Alden, Ryder, and Mellings (2002) model offers a possible explanation for some of the inconsistent findings for nonperfectionists in the Rice and Slaney (2002) study. The inclusion of maladaptive self-appraisal measures
could potentially explain why nonperfectionists did not vary from adaptive perfectionists on anxiety but did have lower scores for order and high standards.

Alden, Ryder, and Mellings’ (2002) model offers a simple conceptualization of perfectionism. It is easy to understand and remember and could serve as a valuable framework of understanding for researchers and clinicians. It offers a road map of treatment goals for therapists working with individuals who have maladaptive perfectionism as an important part of their presenting problem. However, the model, as currently presented, is not without flaw. The authors are not precise in describing whether it is the actual performance standards themselves or the discrepancy between desired and perceived standards that leads to maladaptive perfectionism. The authors have also commented that constructs that are not strictly related to maladaptive self-appraisal may have an important role in explaining social anxiety and perfectionism. Specifically, they stated that anxiety sensitivity and fear of negative evaluation may be important. Anxiety sensitivity is generally thought of as representing a physiological propensity toward anxiety (Reiss et al., 1986) and fear of negative evaluation represents “apprehension about other’s evaluations, distress over their negative evaluations, and the expectation that others would evaluate oneself negatively” (Watson & Friend, 1969). Implicating anxiety sensitivity implies the importance of biological factors while the fear of negative evaluation construct would appear to relate to socially prescribed concerns. It is possible that these two constructs are important for perfectionists who are also socially anxious, but they may or may not be important considerations for adaptive perfectionists. Thus, although Alden, Ryder, and Mellings’ (2002) model holds promise, there are a
number of open issues that require empirical testing and clarification prior to the widespread adoption of the model for the conceptualization of perfectionism.

**Self-Appraisals**

*The Visible Self: Race and Gender.* Before discussing the topic of self-appraisal, the question of what is being appraised arises. Thus, the first question to consider is “what is the self?” The nature and function of the self has been considered since the field of psychology came into existence and it continues to be widely considered, debated, and researched today (for an overview, see Leary & Tangney, 2003).

While a full consideration of this question is beyond the scope of this study, a brief discussion is warranted. While the view of the body and mind as separate entities (e.g., “dualism”) that was endorsed by the philosopher Rene Descartes no longer exists within the sciences (Damasio, 1994), it is important to remember that we are physical as well as mental beings (some would add a separate dimension of spirit as well), and that the place where the two intersect is in the brain and nervous system. The brain is the site where complex networks of neural cells and neurotransmitters interact to enable the existence of our memories and our ability to act in deliberate ways to achieve desired ends. Furthermore, our physical and mental self exists within a social environment that contains multiple levels and contexts, from the family, school, community, and work settings to the society and culture in which they exist.

Two physical aspects of the self have particularly strong influences in the lives of individuals. Race and gender have far-reaching influences on the life course of persons. A person’s race and gender are essential parts of their self that are with them from birth.
to death. Race and gender differences, which are generally visible and readily available
information to other people, have direct influences on many aspects of a person’s life,
notably susceptibility to certain diseases (such as sickle cell anemia for African
Americans) and health-related areas such as reproductive health for women. More
pervasive, typically, in the lives of most people are the impacts that race and gender have
on individuals through processes such as socialization, racism, sexism, and
discrimination. The complex and interactive processes related to race and gender
differences affect a wide array of critical life outcomes, including things such as average
levels of educational attainment, salaries earned, incarceration rates, and life expectancy
(Ying et al., 2001). With respect to social science research, Ying et al. (2001, p. 71)
made the astute observation that “race is best thought of as a proxy of different life
experiences.”

**Cognitive and Affective Appraisals of the Self.** While there are many psychological
theories of the self, an oft-cited and integrative theory is the cognitive-experiential self-
theory (CEST; Epstein, 1994). CEST postulates that each person automatically creates a
theory of reality, comprised of a self-theory, a world-theory, and connections between the
two (Epstein, Lipson, Holstein, & Huh, 1992). The main components of CEST are the
experiential and rational systems. According to Pacini and Epstein (1999, p. 972), “the
experiential system is a learning system that is preconscious, rapid, automatic, holistic,
primarily nonverbal, intimately associated with affect, and it has a very long evolutionary
history.” The rational system on the other hand, is essentially the cognitive information-
processing system. It is logical and can change more rapidly than the experiential system
and the rational system mediates behavior through conscious appraisals of events (Epstein et al., 1992). The experiential system develops (in infants) prior to the rational system and is impacted by early attachment relationships. These early relationships impact our implicit memory, creating unconscious emotional templates in the brain (Lewis, Amini, & Lannon, 2001; Rustin & Sekaer, 2004). Thus, the experiential system can mediate behavior based on a reaction to a present life situation based on associations with previous (especially early life) experiences. These associations occur rapidly and without conscious effort. In contrast to the rational system, the experiential system is slower to change and changes with repetitive or intense experience (Epstein et al., 1992).

The experiential and rational modes of information processing “operate in an independent, parallel, and interactive manner, and together they contribute to behavior, with their relative contributions varying from none at all to complete dominance by either one of the modes” (Pacini & Epstein, 1999, p. 972).

The implication of CEST to the present study is that both cognitive and affective appraisals (or “evaluations”) of the self are important to consider. The most common, and widely used concept of the global evaluation of the self in psychology has been self-esteem (Byrne, 1996).

*Global Evaluation of the Self: Self-Esteem.* A full discussion of the many aspects of self-esteem is beyond the scope of this work. The interested reader is referred to Kernis (2006) for in-depth coverage of this topic.

Rosenberg (1965, as cited in Guindon, 2002) conceptualized self-esteem as a global, unidimensional evaluation of the self; that is, the degree to which persons value
and respect themselves. Additionally, Rosenberg considered that each person measures their self against an internalized set of standards that have been acquired through the socialization process. Thus, elements that are considered to be important in a person’s environment (and society) and the person’s relationship to those elements may influence their self-esteem. Additionally, Rosenberg (1979, cited in Guindon, 2002) added the importance to self-esteem of feedback from important others.

Self-esteem has, at the same time, both global and specific elements (Guindon, 2002). This means that a person intuitively evaluates the self across a wide domain, weighting the importance of each domain, to come up with a global sense of self-esteem. For instance, a person may not be an exceptional athlete, but may do well academically. Thus, they may have a low athletic self-concept but an overall high level of self-esteem, if academics is more important to them (and to important others in their social network) than athletics.

A meta-analysis of the impact of race on self-esteem (Twenge & Crocker, 2002) found that African Americans consistently scored higher than Whites ($d = .19$) and that Whites scored higher than Hispanics ($d = -.09$), Asians ($d = -.30$), and American Indians ($d = -.21$). Additionally, differences were found such that the “Black advantage” was larger ($d = .15$) in the southern region of the U.S. than for other parts of the country.

Ziegler-Hill (2007) found what might be a partial explanation of the so-called “Black advantage” in self-esteem. Prior to discussing Ziegler-Hill’s results, it is necessary to explain the Contingencies of Self-Worth Scale (CSWS). Crocker, Luhtanen, Cooper, and Bouvrette (2003) created the CSWS to assess seven sources of self-esteem in
college students: academics, appearance, approval from others, competition, family support, God’s love, and virtue. Ziegler-Hill (2007) found that White undergraduates were more likely than Black undergraduates to base their self-esteem on the approval of others. The difference Ziegler-Hill (2007) expected to see, that the Black self-esteem advantage would be due to their higher importance on the God’s love dimension, was not supported in his southern U.S. college sample.

A meta-analysis of gender and self-esteem found that self-esteem is consistently lower in females (Major, Barr, Zubek, & Babey, 1999). For samples in North America, this difference is consistent across age, race, and different measures of self-esteem. While this was a reliable effect, the magnitude of the difference was small ($d = -.14$).

According to Harter (1993), there is a strong link between perceived appearance and self-esteem in U.S. girls’ beginning in the third grade. For girls, but not boys, perceived appearance continually declined from 3rd through 11th grade. This effect has especially deleterious effects on girls, as Harter (1993, p. 98) notes: “Adolescent females reporting that appearance determines their sense of worth as a person feel worse about their appearance, have lower self-esteem, and also report feeling more affectively depressed, compared to females for whom self-esteem precedes judgments of appearance.” Harter (1993) notes that in the U.S. the importance of physical appearance for women is emphasized in the media. Harter (1993) also noted the importance of social support; namely, the more social support a person has, the higher their reported self-esteem.

While self-esteem has been primarily viewed as a unidimensional construct (Guindon, 2002), Tafarodi and Swann (1995), drawing on the theoretical and empirical
work of a number of scholars, developed the self-liking/self-confidence scale to measure these two aspects of self-esteem. Additionally, their analysis and later analyses by Tafarodi and Milne (2002) demonstrated that the Rosenberg (1965) self-esteem scale (RSES) parallels this dichotomy, in that the RSES splits equally into items that assess the self (self-confidence) and those that are based on self-acceptance (self-liking). Tafarodi and Swann (1995, p. 324, italics in the original) explain: “Rather than experiencing ourselves as simply positive or negative, we experience ourselves as globally acceptable-unacceptable (referred to here as self-liking) and globally strong-weak (referred to here as self-competence). Together these dimensions are held to constitute global self-esteem.”

No studies were identified in the perfectionism literature that have used the self-liking/self-competence concept of self-esteem, but one such study has been conducted relative to eating disorders. Bardone, Perez, Abramson, and Joiner (2003) used items from the RSES to represent self-liking and self-competence in a sample of undergraduate women. They found that self-competence demonstrated a stronger relationship to change in bulimic symptoms over time than self-liking.

*Self-Conscious Emotions: Shame and Guilt.* There are many self-conscious affects, including ones with positive valence such as pride, and a number with negative valence, such as embarrassment, shame, and guilt. However, research to date has primarily concerned the emotions of shame and guilt, which have been linked with psychopathology (Tangney & Dearing, 2002; Tangney, Stuewig, & Mashek, 2007; Tangney, Wagner, & Gramzow, 1992). The relationship has been robust between shame
and dysfunction, but for guilt, results have depended on the measures used (Tangney & Dearing, 2002).

Both shame and guilt are considered “moral” emotions (Tangney & Dearing, 2002). Children are, in part, socialized via their shame and guilt responses. In normal development, appropriate (e.g., not abusive) experiences with shame and guilt help children to internalize their familial and cultural social norms.

Shame and guilt are negative (e.g., unpleasant) self-conscious emotions that typically arise in interpersonal contexts. In shame, a person views their total self as bad, versus guilt where a person views a specific behavior as being bad. Thus, feelings of shame are typically more painful and have a stronger negative impact on a person as they are globally devaluing themselves. Shame-prone individuals are more likely than guilt-prone individuals to be concerned with how others evaluation them and, after a perceived failure, are more likely to want to hide, escape, or get revenge. People who are more prone to feel guilt rather than shame after a failure or mistake are more likely to confess their error, apologize, and make repair efforts to rectify their error and maintain their connection to the offended party.

Tangney and Dearing (2002, p. 11) wrote “people in the U.S. are reluctant to use the term “shame” and thus often refer to feeling “guilty” when they meant they felt shame, guilt, or some combination of the two.” Two important consequences follow this observation. Since people so often co-mingle the two words (and concepts), Tangney and colleagues (Tangney, Wagner, & Gramzow, 1989) designed the Test of Self-Conscious Affect (TOSCA) to measure both shame and guilt (and pride in the full
version of the measure). Since shame and guilt tend to arise in situations of moral failures and transgressions, often of an interpersonal nature, the TOSCA is based on scenarios that are designed to (mildly) evoke tendencies toward these self-conscious emotions. Tangney’s (Tangney & Dearing, 2002) experience has been that using a scenario-based measure is more effective than a standard self-report instrument asking people abstractly how they feel. Given the overlap common in persons’ perception of shame and guilt, scores for shame- and guilt-proneness from the TOSCA are adjusted statistically so as to partial out the overlap to create “shame-free” guilt and “guilt-free” shame “residuals” for analyses. Across many studies by Tangney and other researchers, women have consistently scored higher on both shame and guilt than men (Tangney & Dearing, 2002).

For a long time, clinicians have discussed the link between perfectionism and shame and guilt (e.g., Bradshaw, 1988; Kaufman, 1989; Middelton-Moz, 1990; Sorotzkin, 1985). Essentially, most have described perfectionism as one method used by people highly prone to feeling shame and/or guilt to avoid these painful affects. These clinicians were referring to what is now called “maladaptive” or “unhealthy” perfectionism. According to these clinicians, people use perfectionism as a defense mechanism, as a way to avoid facing their feared “true” defective selves. To the extent that perfectionists are predominantly successful academically or in the work world, this strategy is a success, at least compared to other ways of “escaping the self”, such as alcoholism and drug abuse (Baumeister, 1991). Interestingly, two of the ways Baumeister (1991) described as means to escape painful self-awareness, eating disorders
and suicide, have also been found to be related to perfectionism (e.g., Bardone-Cone et al., 2007; O’Connor, 2007).

Recent research by Hewitt et al. (2003) on the new construct of perfectionistic self-presentation (vice trait perfectionism as measured by the MPS-HF) supports the concept of perfectionism as a coping strategy. Hewitt et al. (2003, p. 1321) state “the need for the self to appear to be perfect to others may be a compensatory mechanism used to defend against feelings of inadequacy and to guard against concerns over rejection.” They also postulate (Hewitt et al., 2003, p. 1321) that “it may be that the experience of distress exacerbates perfectionistic self-presentation” and they suggest that future research may want to investigate the degree to which this is a self-conscious behavior or an automatic response.

Self-Appraisals and Perfectionism

Race, Gender, and Perfectionism. The vast majority of perfectionism studies to date have used undergraduate, predominantly White and female samples (Chang, Watkins, & Banks, 2004; Stoeber & Otto, 2006). There are some exceptions to this generality. Several studies have compared African American and White students, several have compared Asian American and White students, and others have been conducted with specific cultural groups (e.g., African Americans, Asian Americans, and Asian international students) without direct comparison to results obtained with White participants. To date, only one study has examined perfectionism for all three of the above racial groups; however, as is often the case, this study did not examine gender differences. The studies with African American participants will be reviewed first,
followed by the Asian American studies. As an aid to the reader, Table 2 is provided as a refresher on the major perfectionism measures and their scale names and the abbreviations that will be used in the following review.

Table 2

*Names of Major Perfectionism Scales*

<table>
<thead>
<tr>
<th>Perfectionism Scales and Their Abbreviations</th>
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<tbody>
<tr>
<td>Frost et al. (1990) Multidimensional Perfectionism Scale (MPS-F), 6 subscales:</td>
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<tr>
<td>Concern over Mistakes = CM</td>
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<tr>
<td>Personal Standards = PS</td>
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<tr>
<td>Parental Expectations = PE</td>
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<tr>
<td>Parental Criticism = PC</td>
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<tr>
<td>Doubts about Actions = DA</td>
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<tr>
<td>Organization = O</td>
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<tr>
<td>Hewitt &amp; Flett’s (1991) Multidimensional Perfectionism Scale (MPS-HF), 3 subscales:</td>
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<tr>
<td>Self-Oriented Perfectionism = SOP</td>
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<tr>
<td>Socially-Prescribed Perfectionism = SPP</td>
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<tr>
<td>Other-Oriented Perfectionism = OOP</td>
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<tr>
<td>Slaney et. al. (2001) Almost Perfect Scale, Revised (APS-R), 3 scales:</td>
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<tr>
<td>High Standards = HS</td>
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<tr>
<td>Discrepancy = D</td>
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<tr>
<td>Order</td>
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Classification Names Commonly Used With the APS-R

Adaptive Perfectionism/-ist = AP
Maladaptive Perfectionism/-ist = MP
Non-Perfectionism/-ist = NonP

*The ending of the typology terms are intended to be grammatically appropriate to the context of the sentence in which they appear, including being in the plural form as needed.*
Nilsson, Paul, Lupini, and Tatem (1999) examined race and gender differences between African American and White college students from a large midwestern university. This study compared group differences using the MPS-HF and MPS-F measures of perfectionism. The sample consisted of 81 African American women, 213 White women, 37 African American men, and 86 White men. Significant differences were found by race, with African Americans (women and men combined as a group) scoring higher on the scales for PE and OOP. White students scored higher on the CM and PC scales, although all of the effect sizes, as measured with partial $\eta^2$, were small in magnitude (e.g., all between .025 and .037). A similar pattern of results was obtained when comparing only women students. However, for the male students, there were only two significant differences across race. African Americans had higher scores for PE, with partial $\eta^2 = .089$, a medium-sized effect, and they also had higher scores on the O scale, with partial $\eta^2 = .033$, a small effect size. African Americans had higher scores than Whites on the PS scale, but the difference was not statistically significant. No other variables were used in this study.

Chang, Watkins, and Banks (2004) examined the relationships between perfectionism and psychological functioning in a study of 150 Black and 150 White female undergraduates. The Black women were from a historically Black college (e.g., a “HBCU”) while the White women were from a predominantly White institution (e.g., a “PWI”). In an attempt to account for these differences, the pool of 150 White participants was culled from a larger sample to match Black participants in terms of age and class year. This study used the MPS-F scales of PS and O for AP and the remaining
MPS-F scales (CM, DA, PE, and PC) to represent MP. Chang, Watkins, and Banks (2004) found that Black women were lower in AP, with $d = .29$ (a “small” effect) and that Black women also reported less life satisfaction, greater stress, and greater negative affect. Regression analyses found that stress partially or completely mediated the links between MP and psychological functioning (e.g., positive and negative affect, life satisfaction, and suicidal ideation) for both Black and White women.

Mobley, Slaney, and Rice (2005) examined differences in perfectionism, self-esteem, anxiety, and depression between African American and White undergraduates. Mobley et al. (2005) recruited a sample of 251 African American students from African American studies courses at two large northeastern U.S. universities. They used an archival sample of 314 White students as a comparison group. Their method was to pass out surveys in classes and allow participants to return them to the researchers via campus mail. The return rate was 31.0% and the sample consisted of 68.9% women and the overall sample mean for GPA was $M = 2.75, SD = .75$.

Their analysis found that there was factorial equivalence between the groups for the three scales of the APS-R. For the African American students, they performed cluster analyses to classify perfectionism types based on the scores of the three APS-R scales. This resulted in 45.4% adaptive perfectionists, 28.5% maladaptive perfectionists, and 26.1% nonperfectionists. Mobley et al. (2005) stated that there was no gender difference for frequency of perfectionist type. While it is not possible to evaluate the difference statistically, it can be noted that the proportion of African American students classified as
AP is considerably higher than has typically been identified with predominantly White samples.

Mobley et al. (2005) noted differences between African American and White students on a number of correlations. While $p$ values were not provided, it is assumed that these correlation values were all significant. Mobley et al. (2005) reported that the correlation between D and HS was $r = -.23$ for African Americans and $r = .10$ for Whites. For D and self-esteem (measured with total score from the RSES), $r = -.55$ for African Americans, with values of $-.35$ and $-.44$ reported for White students. The HS scale correlated $r = .35$ with self-esteem for African Americans while it has had values of $.15$ and $.19$ for White students. The correlation between HS and GPA was not significant for this African American sample, while samples with White students have had correlations ranging from $r = .31$ to $r = .43$.

Castro and Rice (2003) examined the differences in perfectionism scores (MPS-F) between African American ($n = 59$), Asian American ($n = 65$), and White students ($n = 65$). They also used the perfectionism scores to predict depression and GPA. They did not include gender in their analyses. In order to obtain their ethnic minority sample at the two public universities in the north central U.S. where the White participants were obtained, data was combined from seven existing datasets collected between 1994 and 2000. The 65 White participants were randomly selected from a larger available sample, in order to match the minority students’ numbers. The final sample consisted of 77.2% women. There were significant differences across race for four of the six MPS-F scales (there were no difference for the PS or O scales). For the four significant scales (CM,
PE, PC, DA), Asian Americans had the largest scores in each case; however, the effect sizes for the differences were of medium magnitude, with partial $\eta^2$ ranging from .05 to .10. Additionally, GPA’s were significantly different across the three groups, with Asian Americans $M = 3.03$, $SD = .51$, Whites $M = 2.79$, $SD = .70$, and African Americans $M = 2.46$, $SD = .82$.

Regression analyses using the six MPS-F scales as predictors for depression were non-significant for African Americans, but were significant for the other two racial groups. The regression for Asian Americans had an $R^2 = .51$, although the only significant predictor was the DA scale, with $\beta = .44$ (both $p < .01$). For White students, results were similar, with $R^2 = .29$, $p < .01$, and $\beta = .31$, $p < .05$ for DA.

Similar regressions for predicting GPA were not significant for White students but were significant for the other two groups. The regression for Asian Americans had an $R^2 = .27$, $p < .05$, with PS ($\beta = .48$, $p < .01$) and DA ($\beta = -.39$, $p < .05$) being significant predictors. The regression for African Americans had an $R^2 = .29$, although the only significant predictor was the DA scale, with $\beta = -.58$ ($p < .01$).

A recent dissertation by Elion (2007) studied perfectionism and related constructs with a sample of 253 African American college students. Elion (2007) used the APS-R to classify the students into AP, MP, and NonP groups. Aside from replicating previous findings with respect to GPA, self-esteem, and depression, Elion (2007) included the Cross Racial Identity Scale (CRIS; Vandiver et al., 2000). Elion (2007) found that MP’s had higher scores on the CRIS Pre-Encounter Self-Hatred scale than AP’s. This would be congruent with general theories of the etiology of maladaptive perfectionism, stating
that deeply ingrained feelings of low self-worth, or self-hatred, lie at the core of MP beliefs and behaviors. Another significant difference found by Elion was that MP’s had lower scores than AP’s on the CRIS Internalization Multiculturalist Inclusive scale. Cross and Vandiver (2001, p. 376) state that pre-encounter self-hatred “characterizes the type of Black person who experiences profound negative feelings and deep-structure self-loathing because of the fact she or he is Black.” The internalization multiculturalist stage is the most advanced in the CRIS framework and Cross and Vandiver (2001, p. 376) state that this is the type of Black person that is able to give equal weight to “the multiple categories that drive the person’s sense of identity” and that “Although the person feels very much a part of the Black community and the Black struggle, he or she easily appreciates a wide range of cultural events and activities.” Relative to theories of perfectionism, this type of person would likely be well integrated within the different settings of their life, connected with many others, accepting, and less rigid and dichotomous in their cognitive style.

Chang (1998) investigated the effects of ethnic status (Asian American, \( n = 89 \); White, \( n = 96 \)), perfectionism, and social problem solving on predicting suicide potential (based on questionnaires administered one month apart) in a sample of university students. Germane to the present study were the differences between racial groups on dimensions of perfectionism. The Asian Americans were significantly higher on four of the six MPS-F perfectionism scales: CM, PE, PC, and DA (effect sizes for the differences were not provided).
The results of the Kawamura, Frost, and Harmatz (2002) study appear consistent with those of Chang (1998). Kawamura, Frost, and Harmatz (2002) studied the relationship between students’ perceptions of parenting styles (harshness and authoritarian parenting style) and perfectionism (MPS-F: PS, CM, & DA scales) and academic achievement for 145 Asian American (61.4% women) and 192 White undergraduates (60.9% women). Significant group-level differences were identified for the paternal and maternal harshness and authoritarian parenting styles, MPS-F CM and DA scales, and GPA for female students. Asian American students scored higher on all scales except GPA, where White females had higher ($M = 3.12$, $SD = .58$) GPA’s than Asian American females ($M = 2.93$, $SD = .58$) and White males ($M = 2.91$, $SD = .57$). Effect size data were not provided. No significant correlations were found between PS and perceived parenting for any of the participant groups. However, a number of correlations were significant between CM and DA for parenting styles for White women and men and Asian American women, but not for Asian American men.

For academic achievement, measured by self-report GPA, there were no significant correlations for any of the four groups on CM or DA. There were, however, significant correlations between GPA and PS, but only for female students. The correlation was $r = .338$, $p < .001$ for White females and $r = .550$, $p < .005$ for Asian American females. Additionally, the difference in correlations between Asian American female and male students ($r = .185$, $ns$) was significant, $t = -2.21$, $p < .05$. The value for White men, which was not significant or significantly different, was $r = .306$, $ns$. 
Wei et al. (2007) examined the effects of acculturative stress, maladaptive perfectionism, length of time in the U.S., and depression in Chinese international students. The sample of 189 students from China and Taiwan was conducted via an online survey at a midwestern university. Participants were mostly (81%) graduate students with a mean age of 28 years, 48% were married, and they had been in the U.S. for an average of 2.9 years. They could take the online survey either in English or Mandarin Chinese. A hierarchical regression analysis predicting depression found significant main effects for acculturative stress and maladaptive perfectionism (using the APS-R D scale) and a significant three-way interaction between the previous two variables and length of time in the U.S. This interaction indicated that low maladaptive perfectionism lessened the effect of acculturative stress on depression, but only for students who had been in the U.S. for a relatively longer period of time (Wei et al., 2007).

Rice and Ashby (2007), in their work to devise a system for classifying perfectionists using the APS-R, examined data from four unpublished data sets from two southern public universities, one situated in a “major metropolitan urban area” (p. 73) and the other located in a “medium-sized city” (p. 73). This resulted in a large sample of 1,537 undergraduates. The combined sample, which had more students from the less diverse, non-urban institution, had 70% women and 65% White, 10% Black, 8% Asian American, 6% Latino, 4% Native American, 4% mixed ethnicity, 3% who endorsed “other”, and 1% missing race/ethnicity data.

To look for racial differences, Rice and Ashby (2007) randomly selected 200 White students and conducted a MANOVA with the four largest racial groups (including
the randomly selected White students). The dependent variables for the MANOVA were the three subscales of the APS-R. No significant differences were found between the racial groups. Next, Rice and Ashby (2007) randomly selected 470 women to compare differences based on gender for the APS-R scales. They found that women scored significantly higher than men on High Standards ($M = 43.35$, $SD = 5.18$ and $M = 41.12$, $SD = 6.22$, respectively) and also on Order ($M = 21.78$, $SD = 4.42$ and $M = 20.32$, $SD = 4.74$, respectively). There was not a significant difference for the Discrepancy scale.

Rice and Ashby (2007, p. 76) concluded: “the small effect size of these differences suggested that sex need not be controlled in further analyses.”

Yoon and Lau (2008) studied familial influences on perfectionism and depression in a sample of 140 Asian American college students. The sample, from a large west coast university introductory psychology course, was 80% female and 77% U.S. born. Yoon and Lau (2008) found, via regression analyses, that within-racial-group interdependence moderated the relationship between MP and depression such that highly interdependent Asian Americans were more vulnerable to depression. Perceived parental support, defined as warmth and acceptance, were found to buffer the impact of parental expectations and criticism (which the authors termed “parent-driven perfectionism”) on increasing depressive symptoms.

A number of observations can be made relative to the perfectionism studies using African and Asian Americans. The studies have been conducted in multiple geographic regions of the United States and they have used students from a wide variety of institutions, ranging from small, HBCU’s to very large (e.g., 50,000 student enrollment)
public land grant PWI’s. In the PWI’s, it has taken the combination of multiple data sets, sometimes gathered over many years (e.g., Castro & Rice, 2003) in order to accumulate a large enough sample of students of color. The samples, unless deliberately matched in terms of participants in each racial group, have had a significantly larger number of White participants (e.g., Rice & Ashby, 2007). Aside from the statistical weight carried by larger numbers, there is the contextual factor of what it is like for students of color to attend college at a PWI. Another observation is that GPA’s vary widely between studies, with no consistent ordering by race. For instance, Kawamura et al. (2002) reported that Asian American women had GPA’s resulting in \( M = 2.93, SD = .58 \) while White women had \( M = 3.12, SD = .58 \). In Castro and Rice (2003), Asian American and White students had lower GPA’s \( (M = 3.03, SD = .51, \text{ and } M = 2.79, SD = .70, \text{ respectively}) \) while African Americans had \( M = 2.46, SD = .82 \). The Mobley et al. (2005) study with an all-African American sample had \( M = 2.75, SD = .75 \), while Rice and Ashby (2007) reported that their large, multi-racial sample had \( M = 3.32, SD = .52 \) for women and \( M = 3.25, SD = .57 \) for men. These differences in GPA across studies may be latent indicators of the academic competitiveness of the institutions where the studies were conducted. This could, in part, explain the variability in results across studies.

The majority of studies examining race and perfectionism to date have used the MPS-F measure. The results for African Americans compared with White Americans have been mixed. In some studies, African Americans are higher in AP (as measured with the PS); while in others, African Americans have been lower than Whites in AP. Nilsson et al. (1999) found that African Americans were lower in the MP scales of CM
and PC than White students. Castro and Rice (2004) replicated the trend of these results, however, the differences they obtained were not large enough to be statistically significant. Castro and Rice (2004) speculated that this was due to their smaller sample size.

Robust findings across studies to date are that Asian Americans are consistently higher on dimensions of MP (e.g., DA, CM, PC, PE). The Nilsson et al. (1999) study used the MPS-F to compare Black and White students while Chang (1998) used the MPS-F to compare Asian American and White students. Chang (1998) found that Asian Americans had significantly higher scores on DA, CM, PE, and PC than White students. Nilsson et al. (1999) found that both African American women and men had significantly higher PE scores than White students and that White women were higher on the CM and PC scales while White men were not significantly different from African American men other than on the PE and O scales, where they had lower scores than the African American men. Taken together, these results suggest that African American students perceive that their parents set high expectations for them but their parents do not criticize them as much as White and Asian American parents. It appears that Asian American students perceive the highest degree of both parental expectations and criticism. This appears consistent with the Asian American value of earning family recognition through achievement (Kim, Li, & Ng, 2005). Thus, it appears that factors such as racial identity, acculturation, and socialized familial and cultural values are important considerations for students of color in terms of the development and expression of perfectionism.
Results for gender have found significant differences between women and men, but they too have varied in direction between studies. There is some support, via the HS scale, that women are slightly higher in AP than men. Additionally, Kawamura et al. (2002) found that the correlation between GPA and AP (measured with the PS scale) was significantly higher for Asian American women compared to Asian American men.

Other gender differences have been noted in the perfectionism literature. Hewitt et al. (2003) found that men were significantly more likely than women to not disclose their imperfections to others. There were no gender differences reported for perfectionistic display or non-display of imperfection. In a study of teen girls and their parents conducted in Belgium, Soenens et al. (2005) found that fathers’ maladaptive imperfection had a stronger impact on their daughters (acting through psychological control) than did their mothers’ maladaptive perfectionism. Based on her experience of working with women students at a small private college, Landphair (2007) has described a phenomenon where high achieving women students are not only expected (by their peers) to be intelligent, thin, and physically fit, they are expected to achieve these attributes “effortlessly.” Landphair (2007) describes a conversation with a female student who told her “I am usually the one who helps my friends. I hate asking for help” (p. 25, italics in original). Landphair (2007) observes that in this setting of high achievers, where most students know one another, women students have internalized peer messages that state: “It is right to make good grades, to appear thin, to seem unflappable. It is wrong to seek out help, to be over a size six, to be different” (p. 25, italics in original).
These studies make important points. Students suffering the internal distress caused by perfectionism, may for differing reasons, based on gender and/or setting, not disclose their imperfections and may be quite reluctant to admit they are having difficulties or to seek help. Combining the work of Kawamura et al. (2002) and Soenens et al. (2005), harsh, authoritative, controlling parenting may have more of an impact on daughters than sons, and this may vary across racial groups. Specifically, Kawamura et al. (2002) found that Asian American men had no significant correlations between their perceived harsh parenting and maladaptive perfectionism (DA and CM scales). This was contrary to the findings for Asian American women and White women and men.

Self-Esteem and Perfectionism

Stoeber and Otto (2006) summarized research from 35 studies that conceptualized perfectionism as having both adaptive and maladaptive aspects. A review of their summary finds that the relationship between self-esteem and both aspects of perfectionism are robust. Whether the analysis is dimensional or group-based, one finds that adaptive perfectionism is associated with higher self-esteem while maladaptive perfectionism is associated with lower self-esteem. All studies that have been reviewed by the current author have used the total score from the Rosenberg (1965) self-esteem scale to represent the construct. When the comparison is group-based, the results all show that adaptive perfectionists have higher levels of self-esteem than maladaptive perfectionists. In most, but not all cases, the difference between adaptive perfectionists and nonperfectionists is also significant, with adaptive perfectionists having higher self-esteem than nonperfectionists.
As previously discussed, Mobley et al. (2005) found that correlations between the APS-R D and HS scales with self-esteem were approximately .10 to .20 higher for African Americans than Whites. These magnitudes of differences in correlations are considered to represent a small effect. The direction of the correlations was the same for both racial groups, with negative correlations with maladaptive perfectionism and positive correlations for adaptive correlation.

Shame, Guilt, and Perfectionism

To date, there have been few published studies examining the relationships between shame, guilt, and perfectionism. Lutwak and Ferrari (1996) examined these constructs, along with self-critical cognitions, in a university sample of 103 men and 183 women. Using the original TOSCA (Tangney, Wagner, & Gramzow, 1989) to measure shame and guilt, and the MPS-HF to measure perfectionism, Lutwak and Ferrari (1996) found that women reported significantly higher levels of shame and guilt. Additionally, factor analyses revealed that for men, shame loaded with self-critical cognitions and guilt loaded onto a second factor with the three MPS-HF perfectionism dimensions (SOP, SPP, and OOP). For women, both shame and guilt loaded with self-critical cognitions, but only the SPP dimension of perfectionism.

Tangney explored shame, guilt, and perfectionism in three university samples (Tangney, 2002) and additionally explored these constructs along with procrastination in another study (Fee & Tangney, 2000). Across these four samples, that consisted mainly of White females, using the original TOSCA (Tangney et al., 1989), “guilt-free” shame (or “shame residual”) was significantly correlated with the MPS-HF SPP scale in all
cases, with correlations ranging from .26 to .33. On the other hand, “shame-free” guilt (or “guilt residual”) was only significantly correlated with SPP in one sample \( r = -.26, p < .001 \). In the other samples, while the correlations were not significant, they had negative values in each case, indicating that perfectionism decreased as shame-free guilt increased. In these samples, neither the shame or guilt residual scores were significantly correlated with the SOP or OOP scales of the MPS-HF.

Fee and Tangney (2000), used the TOSCA shame- and guilt-proneness scales and MPS-HF perfectionism scales to predict General Procrastination (GP; Lay, 1986). Significant interactions were found between shame and SPP \( \Delta R^2 = .06, p = .02 \) and shame and OOP \( \Delta R^2 = .10, p = .005 \). To further investigate these interactions, Fee and Tangney (2000) performed a median split to create low and high shame-proneness groups. They found significant correlations between SPP and OOP and procrastination for the high shame group \( r’s = .32 \text{ and } .34, p’s < .05, \text{ respectively} \) but no significant correlations for the low shame group. Similar to the results previously described for guilt, although not significant, the correlations between the perfectionism dimensions and procrastination were all negative in direction for the low shame group.

Ashby, Rice, and Martin (2006) explored the relationships between maladaptive perfectionism, self-esteem, internalized shame, and depression in a sample of college women \( n = 175 \) and men \( n = 40 \). The sample, from a mid-sized, midwestern university, was 94% White. Ashby et al. (2006) used the D scale of the APS-R along with the CM and DA scales from the MPS-F for MP, the Rosenberg (1965) self-esteem scale, the Embarrassed and Exposed scale from the Internalized Shame Scale (ISS; Cook,
1988), and the Beck Depression Inventory (BDI; Beck, 1978) in this study. Ashby et al. (2006) replicated their previous research demonstrating that MP was negatively associated with self-esteem and positively associated with depressive symptoms and that self-esteem mediated the relationship between MP and depressive symptoms. In separate, new models for women and men, they found that internalized shame partially mediated the relationship between MP and depressive symptoms for women and fully mediated the relationship for men. Thus, for women, MP had direct effects on self-esteem, internalized shame, and depression, as well as indirect effects acting through self-esteem and internalized shame. In addition, women had a significant negative relationship between internalized shame and self-esteem. For men, MP had direct effects on self-esteem and internalized shame but only a significant effect on depressive symptoms acting through internalized shame.

Stoeber, Harris, and Moon (2007) conducted an experiment to see if the experience of success or failure would have an influence on the self-conscious emotions of pride, shame and guilt for three different types of perfectionists. Stoeber et al. (2007) used the APS-R HS and D scales to represent perfectionistic strivings (“adaptive” in the terminology of the present study) and concerns (“maladaptive”), respectively. Using the methodology of Ashby, Kottman, and DeGraaf (1999), Stoeber et al. (2007) classified participants into three types of perfectionism based on median splits of their HS and D scores. Non-perfectionists had low scores on both HS and D while “healthy” perfectionists had high HS but low D scores and “unhealthy” perfectionists had high scores on both HS and D. [This technique is similar to that recommended by Rice and
Ashby (2007) with the exception that they have now established recommended cut scores for the HS and D scales.] The sample for this study consisted of 121 undergraduates (62% women) from a large British university. No information was provided concerning the race or ethnic composition of the sample. Aside from the APS-R, Stoeber et al. (2007) used the full 16 scenario TOSCA-3 (Tangney & Dearing, 2002) to measure trait pride, shame, and guilt. They also used the State Shame and Guilt Scale (SSGS; Marschall, Saftner, & Tangney, 1994) to measure state pride, shame, and guilt. The experimental procedure involved having participants complete the APS-R and TOSCA-3. Participants next completed an intentionally ambiguous questionnaire and were given random success or failure feedback from an experimenter. Participants then completed the SSGS. After this, they were debriefed about the deception used in the experiment and informed that the feedback had been randomly assigned. A chi square analysis found a significant perfectionism type and gender effect, \( \chi^2(2, N = 121) = 6.13, p < .05 \) with women over-represented in the unhealthy group and men over-represented in the healthy group (both compared to the non-perfectionist group). While there were no gender differences in correlations with state values, there were significant differences for the trait values such that women had higher correlations to proneness to pride \( (r = .19, p < .05) \), shame \( (r = .44, p < .001) \), and guilt \( (r = .43, p < .001) \). It is worth noting that Stoeber et al. (2007) did not compute and use residual values for shame- and guilt-proneness, as recommended by Tangney (Tangney & Dearing, 2002). Controlling for the effects of gender, Stoeber et al. (2007) found that: healthy and unhealthy perfectionists had significantly higher levels of pride-proneness than non-perfectionists, unhealthy
perfectionists and non-perfectionists had significantly higher levels of shame-proneness than healthy perfectionists, and healthy and unhealthy perfectionists had significantly higher levels of guilt-proneness than non-perfectionists. Finally, it was found that the impact of the experimental success or failure feedback did not have a significant interaction depending on perfectionism type. This indicates that, regardless of success or failure feedback, healthy perfectionists experienced (via state measures) more pride and less shame or guilt than unhealthy perfectionists and non-perfectionists (Stoeber et al., 2007).

Perfectionism and Academics in College Undergraduates

Prevalence of Perfectionism in College Students. Research indicates that perfectionism is quite prevalent in college students and that it is an important consideration in the emotional well-being and academic functioning of college students. A survey of college students in counseling found that 26% of the women and 21% of the men reported that perfectionism was “quite distressing or extremely distressing” to them (Research Consortium of Counseling and Psychological Services to Higher Education, 1995). However, since perfectionists are less likely than nonperfectionists to seek help (Flett, Hewitt, Davis, & Sherry, 2004), the prevalence among college students may actually be higher.

In perfectionism research using the APS-R with non-clinical, undergraduate students (typically in psychology courses), the combined numbers of perfectionists have been higher than for nonperfectionists. For example, Grzegorek, Slaney, Franze, and Rice (2004; N = 273) found 42.9% nonperfectionists, 30.8% adaptive perfectionists, and
26.4% maladaptive perfectionists. This predominantly White (91%), female (73.6%) sample was categorized into perfectionist types via cluster analysis using the three scales of the APS-R. Using similar methodology, Mobley et al. (2005; N = 207) found, for an all African American sample (68.9% female) recruited from African American studies courses at two large northeast U.S. universities, identified 26.1% of their sample as nonperfectionists, 45.4% adaptive perfectionists, and 28.5% maladaptive perfectionists. Work conducted more recently has classified students’ perfectionism type using only the HS and D scales of the APS-R, as subsequent work has determined that the Order scale scores are not needed for classification (Rice & Ashby, 2007). In a composite sample of 1,537 students (70% female, 65% White), Rice and Ashby (2007) found 37.0% nonperfectionists, 34.4% adaptive perfectionists, and 28.6% maladaptive perfectionists. These numbers reflect the scoring scheme that Rice and Ashby (2007) recommended for classifying perfectionists, namely nonperfectionists have HS scores less than 42 (the HS scale scores can range from 7 to 49) and perfectionists have HS scores of 42 or higher. If a person is a perfectionist, they are further classified as a maladaptive perfectionist if their D score is 42 or higher (the D scale scores can range from 12 to 84). Thus, the combined numbers of perfectionists outnumbered non-perfectionists, although the number of maladaptive perfectionists, for whom higher levels of academic, personal, and social distress would be expected, has varied from approximately 26-29% of the samples examined.

Honors Students and Perfectionism. Only one article could be found in the literature that compared college Honors students with “regular” non-Honors students. Using an Honors
College sample ($n = 90$) and regular students ($n = 95$) from the University of Alabama, Parker and Adkins (1995) found that the Honors students were significantly higher in the MPS-F dimensions of CM, PE, and PS. The first two dimensions have been included in factor analyses with the MPS-F as representing maladaptive perfectionism, while PS (along with the O scale) have been used to represent adaptive perfectionism. Thus, Honors College students were higher in dimensions of maladaptive perfectionism, with effect sizes of Cohen’s $d = .66$ for CM and $d = .48$ for PE. At the same time, the Honors College students were also higher in the PS dimension of adaptive perfectionism, with $d = .77$. Parker and Adkins (1995) described the results as representing “moderate” effect sizes. This study tested for gender differences between the groups of students for the 6 MPS-F dimensions, and, while none were significant (nor were the interactions), the difference due to gender for the PS scale was nearly significant, $p = .053$, with male students having higher scores on this dimension for both Honors and regular students.

**Procrastination and Perfectionism**

Procrastination is very prevalent, especially in college students, with about half of them saying that they procrastinate “consistently and problematically” (Steel, 2007, p. 65). In his meta-analysis of procrastination research, Steel (2007, p. 66) says that to procrastinate “is to voluntarily delay an intended course of action despite expecting to be worse off for the delay.” Steel (2007, p. 65) summarizes his findings stating “strong and consistent predictors of procrastination were task aversiveness, task delay, self-efficacy, and impulsiveness, as well as conscientiousness and its facets of self-control, distractibility, organization, and achievement motivation.” Perhaps it is not surprising,
given the previous statement, that Ferrari (2004) describes procrastination as a complex phenomenon that is quite difficult to predict. In part, at least, this difficulty lies in the fact that procrastination is a function of a person’s traits and the situations that they find themselves in, including environment (Ferrari, 2004). When one considers all of the possible combinations of factors for each person, the difficulty in being able to explain the behavior becomes clear.

In the initial research published with the MPS-F, Frost et al. (1990) found that all six scales of the MPS-F were associated with at least two of the four scales of the Procrastination Assessment Scale-Students (PASS; Solomon & Rothblum, 1984). In particular, the correlation between the MPS-F DA scale and the PASS Fear of Failure scale was large, \( r = .553, p < .01 \). In addition, all of the MPS-F scales except for PS and O had positive correlation with the procrastination scales. This means that students with higher PS or O scores were less likely to procrastinate. It is relevant to note that all of the participants in the Frost et al. (1990) study were women.

Ferrari (2004) reports that male students tend to procrastinate more than female students and that graduate students have higher rates of academic procrastination than undergraduates. In his brief review of procrastination research, data given by Ferrari (2004) shows that very few psychological variables have large (e.g., \( r > .50 \)) correlations with procrastination. Large correlates with procrastination reported by Ferrari (2004) include fear of failure, self-handicapping, and self-efficacy, which is a negative correlate. Positive correlates (significant at \( p < .05 \); Ferrari, 2004, p. 22) with academic trait procrastination, potentially related to perfectionism include: guilt affect (\( r = .42 \), social
anxiety \( (r = .32) \), socially prescribed perfectionism \( (r = .24) \), parental criticism \( (r = .24) \), and parental performance expectations \( (r = .21) \). Potentially relevant negative correlates with procrastination include: organization \( (r = -.37) \), personal self-confidence \( (r = -.30) \), personal performance standards \( (r = -.30) \), and self-esteem \((r's = -.23, \text{ and } -.26 \text{ in two studies})\).

Ferrari (2004) goes on to say that procrastination occurs in both academic underachievers and in perfectionist, high-achieving students. While procrastination has a negative impact on a wide range of academic related measures, including cheating and plagiarism (both \( r = .30 \)), the effect on cumulative grade point average was small, with \( r = -.12 \). This small effect on GPA could partially explain the persistence of procrastination. A potentially related finding is that students’ procrastination pattern over the course of an academic semester is curvilinear, such that it increases during the middle of the semester and decreases back to early semester levels near the end of the semester (Moon & Illingworth, 2005). Thus, students may be, on average, successful (in terms of GPA) in decreasing their procrastination at the end of the semester and preserving their grades.

While clinicians have often cited perfectionism as a major cause for procrastination (Walker, 2004), empirical support (using the MPS-F and MPS-HF) has not been consistent (Steel, 2007). The relationships between perfectionism and procrastination have varied based on which measures are used for the two constructs and have even varied across samples with the same measures (Flett, Hewitt, Davis, & Sherry, 2004). Flett and colleagues have recently had considerably more success using a newer
measure, the Perfectionism Cognitions Inventory (Flett, Hewitt, Blankstein, & Gray, 1998), where the correlation between perfectionistic cognitions and procrastination cognitions was $r = .52, p < .001$.

Flett et al. (2004, p. 182) give possible reasons for the link between perfectionism and procrastination as “debilitating levels of fear of failure” caused by “feelings of personal inferiority, inefficacy, and low self-acceptance” and the “perceived inability to meet impossible high standards of perfection.” Flett et al. (2004, p. 188) state that perfectionists’ fears of failure are “very “self-conscious” in that they are focused on possible shame, a loss of self, and an uncertain future.” Flett et al. (2004, p. 189) caution that while brief interventions for procrastination may help some perfectionists, that since “perfectionism is a deeply ingrained core vulnerability factor,” some perfectionists may need “more intensive psychotherapy that emphasizes the core issues in perfectionism.” Flett et al. (2004, p. 189) state that the precursors to this type of perfectionism “are often interpersonal and involve core needs of the individual (i.e., need to obtain respect, caring, and love and to avoid censure, humiliation, or punishment) that propel perfectionistic behavior in an effort to establish an acceptable identity.” For people with this level of perfectionism, it may be that their procrastination is less of a voluntary act, as defined by Steel (2007) and may be more of a compulsive nature, in line with the type of perfectionism that is a criteria for Obsessive-Compulsive Personality Disorder in the DSM-IV-TR (American Psychiatric Association, 2000).
Chapter 3

Statement of the Problem

Although there is no universally agreed upon definition for perfectionism, most researchers in the field (cf. Stoebert & Otto, 2006) agree that perfectionism is multidimensional, with adaptive and maladaptive elements. However, researchers have used up to nine subscales of perfectionism (from the combination of the MPS-F and MPS-HF) to define adaptive and maladaptive perfectionism (e.g. Frost et al., 1993).

Conceptual clarity concerning what constructs truly predict perfectionism is still lacking. For instance, there is disagreement over whether the existing scales purporting to measure perfectionism are actually measuring causal factors or whether the measures actually co-mingle cause and effect (Rice & Slaney, 2002; Shafran & Mansell, 2001). Many researchers have included the scale measuring organization into adaptive perfectionism, yet a person who manifests this in the extreme would likely qualify for a diagnosis of obsessive-compulsive personality disorder. It is likely that the most adaptive condition is to score moderately on organization. If a person scores very low in organization, they will be disorganized, which will lead to difficulties for them.

Researchers also disagree as to whether perfectionism exists along a continuum or whether there are qualitative differences that would allow grouping individuals into categories, such as types of perfectionists and non-perfectionists (Flett & Hewitt, 2002; Rice & Slaney, 2002). Researchers have not addressed whether perfectionism exists across all domains for a given individual or whether they may be perfectionistic in only
one or a limited number of domain areas, such as work (Flett & Hewitt, 2002; Mitchelson & Burns, 1998).

Regardless of the precise definition or measure of perfectionism, researchers uniformly agree that it has many negative outcomes, both in terms of psychological distress and related behaviors. Perfectionism has been linked with a wide spectrum of mental health problems (Shafran & Mansell, 2001). Perfectionism is considered to be quite prevalent among college students (Rice & Slaney, 2002). Aside from psychological distress, perfectionism has also been linked with academic behaviors and outcomes in college students. Perfectionism has been linked with procrastination (Frost et al., 1990). Although the results with GPA appear to be dependent upon sample characteristics (Rice & Slaney, 2002), GPA has been seen to have a relationship with perfectionism (Kawamura et al., 2002). It is important to note, however, that the vast majority of studies on college students have used samples that are comprised mostly of White women. The relatively small number of studies that have made concerted efforts to examine perfectionism in people of color and in men have had mixed results except for Asian Americans. They have consistently scored higher than both African Americans and Whites in dimensions of maladaptive perfectionism. Two studies have provided support for African Americans being lower in MP than White Americans. The results for gender differences have varied across studies. While the findings for gender have also been inconsistent, there appears to be a trend for women to be higher in adaptive perfectionism (measured with the HS scale) and Asian American women had
significantly higher correlations between adaptive perfectionism (with the PS scale) and GPA than Asian American men.

One robust finding in the perfectionism literature has been its association with self-esteem. Research has found that “adaptive” perfectionists have higher self-esteem, on average, than “maladaptive” perfectionists and non-perfectionists (Stoeber & Otto, 2006). However, all of these studies have considered self-esteem to be a unidimensional construct. A number of researchers have expressed the value in considering self-esteem to consist of factors termed “self-liking” and “self-competence” (e.g., Mruk, 2006; Tafarodi & Swann, 1995; Tafarodi & Milne, 2002). For example, Bardone, Perez, Abramson, and Joiner, (2003) found a differential relationship between these two aspects of self-esteem and bulimic symptoms in college women. Thus, it is possible that differences between the aspects of self-esteem have differential relationships with positive and negative aspects of perfectionism.

Little research has been conducted to date exploring the impact of negative self-conscious emotions, such as shame and guilt, on perfectionism. The research that has been performed has indicated that shame in particular may be important in the relationship between perfectionism and depression, and that this difference varies between women and men (Ashby et al., 2006). Thus, it appears that shame and guilt may be important factors in the understanding of perfectionism.

One behavioral manifestation of perfectionism in college students is procrastination, or deliberately avoiding and delaying the performance of academic tasks (Ferrari, 2004). However, the results of research have been inconsistent between
different instruments and different samples. Also within the academic domain, only one study has been published to date (Parker & Adkins, 1995) that compares Honors Program students with regular students. Since this study found significant differences such that the Honors students were more likely to be perfectionistic, replication and extension of these results would be a valuable addition to this area of study.

Present Study

The purpose of the present study is to address some of the issues discussed above. This study will use the framework provided by Alden, Ryder, and Mellings’ (2002). In keeping with the formulation of the TCMP, this study will adopt a multidimensional perspective of perfectionism; namely, that it has both adaptive and maladaptive elements and that it has both self- and socially-prescribed aspects. The study will examine both internal and external (e.g., parental) sources of perfectionism. The intrapersonal elements are maladaptive self-appraisals and self-imposed high standards, while the interpersonal element are high standards perceived to be imposed or expected by important others in a person’s life. The TCMP can be viewed dimensionally, with elements of perfectionism existing along a continuum from low to high levels, or it can be viewed as a way of classifying three major types of perfectionism: non-perfectionists, adaptive perfectionists, and maladaptive perfectionists.

The present study will include a focus on the lesser-studied areas of: race and gender differences in perfectionism, negative self-conscious emotions (e.g., shame and guilt) as predictors of perfectionism, the effect of academic-domain predictors,
differences in perfectionism for high GPA students, and the ability of perfectionism
constructs to predict procrastination.

Hypothesis 1

Statement. Race and gender will significantly, and differentially, be associated
with perfectionism, such that:

a. Relative to White students, being African American will be predictive of lower
maladaptive perfectionism. Relative to White students, being Asian American will be
predictive of higher maladaptive perfectionism.

b. The status of being a woman, relative to being a man, will be predictive of
adaptive perfectionism.

Analysis. Dummy variables representing White men, Black women and men, and
Asian American women and men (White women are the comparison group) will be
added to Step 1 of separate hierarchical multiple regression (HMR) analyses for adaptive
and maladaptive perfectionism (measured via the APS-R High Standards and
Discrepancy scales, respectively). Given the paucity of previous research with respect to
race, it is considered worthwhile to investigate differences amongst all racial groups for
which sufficient participants exist in the data set. Since there have been significant
differences in past research for all three races, having them in Step 1 also serves to
control for any covariance they might possess relative to the other HMR predictor
variables to be added in later steps.

In addition to the HMR analyses, chi square analyses will be conducted to test the
relative frequencies of the different race and gender groups in the three perfectionism
types. To explore group mean differences for the continuous variables of the study, a MANOVA will be conducted to test for significant differences by racial groups and \( t \) tests will be conducted to test for gender differences. MANOVA analyses crossing perfectionism classification with race and gender cannot be conducted due to the low sample size. This would result in unacceptably small cell sizes for the aforementioned MANOVA. This is in accordance with the guidance of Tabachnick and Fidell (2007) stating that for analyses of variance, there must be more cases than degrees of freedom (e.g., number of variables) in each cell, and that a general guideline to help assure that the assumptions of multivariate analysis are not violated, there should be at least 20 cases per cell.

**Hypothesis 2**

*Statement.* Elements of the TCMP, specifically maladaptive self-appraisals and performance expectations, will combine to significantly and differentially, predict adaptive and maladaptive perfectionism, with:

a. Higher levels of positive self-appraisals will be predictive of adaptive perfectionism while the reverse will be true for maladaptive perfectionism.

b. High levels of performance expectations will be predictive of both adaptive and maladaptive perfectionism.

*Analysis.* After controlling for race and gender in Step 1 of the HMR analyses outlined above, cognitive-affective predictor variables will be added in Step 2. These variables will include the self-liking and self-competence aspects of self-esteem (from the Rosenberg (1965) scale), and shame- and guilt-proneness (from the Tangney & Dearing,
Self-liking and self-competence will be significant positive predictors of adaptive perfectionism and negative predictors of maladaptive perfectionism. Shame-proneness will be a positive predictor of maladaptive perfectionism only. Guilt-proneness will not be a significant predictor of either adaptive perfectionism and a negative predictor of maladaptive perfectionism. The students’ academic performance expectation, e.g., the maximum GPA that they think they could realistically obtain, will be entered (along with other academic-domain variables described below) in Step 3. Higher academic performance expectations should be predictive of both adaptive and maladaptive perfectionism.

Hypothesis 3

Statement. The negatively valenced self-conscious emotion of shame will be a significant predictor of maladaptive perfectionism.

Analysis. Shame and guilt residual scores (which partial the effects of one out of the other) will be included in Step 2 (cognitive-affective self-evaluations) of the HMR for maladaptive perfectionism. Guilt will be included as a check, as recommended by Tangney, as it often co-varies with shame (Tangney & Dearing, 2002).

Hypothesis 4

Statement. The inclusion of academic domain self-evaluative variables will result in a significant improvement in the amount of variance explained in predicting adaptive and maladaptive perfectionism.

Analysis. Academic domain self-evaluative variables (including students’ perceptions about their parents’ evaluations) will be added to the HMR analyses in Step
3. These variables will include academic self-confidence, measured with the PEI, and the students’ satisfaction with their current GPA. Academic self-confidence and satisfaction with GPA will be positive predictors of adaptive perfectionism and negative predictors of maladaptive perfectionism.

Hypothesis 5

Statement. Students’ perceptions of higher levels of parental academic pressure will be significant predictors of increased levels of maladaptive perfectionism.

Analysis. This hypothesis will be tested by including the answers from two single item questions into Step 3 of the HMR for maladaptive perfectionism. It is expected that the higher students perceive their parents’ GPA satisfaction, the lower their scores will be on the criterion. Conversely, the higher students believe their parents want them to perform academically, as measured by parents’ desired GPA for the student, the higher students’ scores will be on the criterion.

Hypothesis 6

Statement. There will be significant differences in perfectionism between low and high academically performing students such that students with higher GPA’s will be higher in both adaptive and maladaptive perfectionism compared to lower performing students.

Analysis. Given the low prevalence of actual Honors students in the predominantly first-semester-freshman sample, a dichotomous variable, “Honors Eligible”, will be created based on the students’ GPA such that values below will be coded as 0 and values of 3.50 or higher will be coded as 1. This dichotomous variable
will be included in Step 3 (academic domain variable block) of the HMR’s for predicting adaptive and maladaptive perfectionism. In addition to the HMR analyses, a chi square test will be conducted to look for significant differences in frequency of perfectionism type by GPA grouping.

**Hypothesis 7**

*Statement.* Significant variables from the preceding tests of the adaptive and maladaptive perfectionism will significantly predict academic trait procrastination.

*Analysis.* A separate HMR analysis will be conducted, using the API total score as the criterion, using the same predictor variables as used to explore the previous hypotheses concerning perfectionism.
Chapter 4

Method

Participants

The vast majority of participants were from Introductory Psychology courses; however, there were several students from 300-level psychology and business management courses (all were part of the VCU Psychology Department research pool). The final sample (details to follow on how the sample was selected) for analysis of \( N = 155 \) consisted of 57 African Americans (31 female and 26 male), 57 White participants (33 female and 24 male), and 41 Asian Americans (16 female and 25 male). Thus, across races, there were 80 female and 75 male participants.

Participant ages ranged from 18 to 51 years, with \( M = 19.38 \) and \( SD = 3.56 \). Students’ GPA’s ranged from 1.40 to 4.00, with \( M = 3.14 \) and \( SD = 0.52 \). For freshmen, their High School GPA was used, whereas college GPA was used for non-freshmen. The sample includes 102 (65.8 %) freshmen, 33 (21.3 %) sophomores, 15 (9.7 %) juniors, and 5 (3.2 %) seniors. Four students indicated that they were in the university Honors program and four students indicated that they belong to an academic honor society. In this sample, 108 (69.7 %) students had GPA’s lower than 3.50, 44 (28.4 %) had GPA’s of 3.50 or higher, and 3 (1.9 %) did not give their GPA.

Since a major goal of the present study was to explore the impact of race and gender on study variables, it was desired to achieve equal numbers of participants across racial and gender groupings. Given the number of participants in the different racial
groups, it was decided that there were enough participants to examine race and gender effects for three groups: African Americans/Black, European Americans/White, and Asian Americans/Asian. Participants from other groups were excluded from analysis. This decision was based on a number of factors. Tabachnick and Fidell (2007) caution that statistical ambiguity can result in multivariate analyses when cell sizes have unequal n’s. Leech, Barrett, and Morgan (2008) offer a rule-of-thumb for MANOVA analyses that in order to be consistent with the underlying assumptions of the technique, the largest cell should be no more than approximately 1.5 times larger than the smallest cell. Tabachnick and Fidell (2007) recommend random deletion of cases if statistical power can be maintained. A pre-experiment power analysis for this study determined that 159 participants would be needed.

Other researchers, such as Castro and Rice (2003) and Rice and Ashby (2007) have randomly selected their White participants from a larger pool in order to match the size of the largest racial group in order to equalize group sizes for statistical analyses. Specifically, Castro and Rice (2003) randomly selected 65 White participants from their archival data sets to match the 65 African American and 59 Asian American participants for which they had data.

A similar approach was followed in the present study. Since the largest racial minority group was African American, with n = 57, 46 White participants (20 men and 26 women) were randomly selected and dropped from the original pool of 103. This approach kept the ratio of White men and women in the final sample the same as in the original pool. This was done in order to equate the number of White participants to that
of African Americans \((n = 57)\). Given that the number of Asian Americans was 41, setting the number of White participants to 57 was a compromise between keeping as high an \(N\) as possible to maximize statistical power, yet attempting to equate group sizes at equal \(n\)’s for multivariate analyses. The difference in group numbers is due to the low number of Asian American women in the sample \((n = 16)\). Although the number of Asian American females was approximately half the number of the groups of African American and White females, the race/gender cell sizes (across all 6 cells of the study) were not statistically different, \(\chi^2 (2, N = 155) = 3.678, p = .159\). However, with a final overall sample size of \(N = 155\), based on the pre-study power analysis, it was assumed that this sample size would be adequate to reliably identify true effects in the data.

A question arose with respect to the small number of Asian American women in this sample as to whether they were under-represented because their are low in academic trait procrastination (given the timing of data collection during the last week of the semester). Statistics were obtained concerning race and gender for the full Fall 2007 SONA Introductory Psychology research pool (A. Lerner, personal communication, April 29, 2008). The participant pool consisted of 1,629 students. Overall, the students reported their races as: 50.6% White, 24.7% African American, 13.9% Asian American, 6.7% other, 3.7% Chicano/Latino, and 0.4% Native American. For the groups used in this study, the SONA research pool had 40.1% men and 59.9% women in the White group, 32.0% men and 68.0% women in the African American group, and 54.4% men and 45.6% women in the Asian American group. Comparison of the SONA pool gender ratios with the sample obtained for this study revealed that there were more men in each
racial group, with 2.6% more White men than would have been expected, 13.6% more African American men, and 6.6% Asian American men. Thus, while there were more men overall in the sample than would have been expected based on their frequency in the SONA pool, the number of Asian American men was between the values obtained for White and African American men. Thus, while the previous research demonstrated that men are higher than women in trait procrastination (Steel, 2007) may be at play, this potential effect is not larger for Asian Americans than African Americans in this sample.

The process of arriving at the final sample began with the collection of 225 surveys. Four surveys were discarded due to missing data. The remaining 221 participants included the aforementioned numbers of African Americans, Asian Americans, and White students. Additionally, there were 11 Chicano/Latino students, 2 Native Americans, and 7 who selected “other.” The latter group consisted of students who stated that they were multiracial or from specific foreign countries. Given the low prevalence of students from these groups, they were not included in the final analysis sample.

The original sample of 225 included 138 students (61.3 %) reporting that they were freshmen. The racial composition of the freshmen participants was similar to that of the overall VCU freshman class (“Freshman Student Profile”, 2008). There were 36 (26.1 %) African Americans, 58 (42.0 %) European Americans, 29 (21.0 %) Asian Americans, 7 (5.1 %) Hispanic Americans, 2 (1.4 %) Native Americans, and 6 (4.3 %) of students who selected “other” for race/ethnicity. Students in the last category included those indicating mixed racial background and also international students who listed their
country of origin. The sample of freshman students in this study slightly over-represented African and Asian Americans (who represented 20 and 13 %, respectively, of the overall VCU incoming freshman class) and slightly under-represented European Americans (who made up 50 % of the Fall 2007 VCU incoming freshmen class).

Additionally, freshmen study participants’ self-reported High School GPA was $M = 3.22$, $SD = 0.46$, again mirroring that of the overall incoming freshmen class, whose average GPA was given as 3.36 (“Freshman Student Profile”, 2008).

Additional institutional information that might be of interest to future researchers comparing results across institutions includes: there were 15,160 applications for the 3,882 first-time freshmen enrolled for Fall 2007; 57% of these students were female; 89% were from in-state; and the average SAT for all admitted freshmen was 1,086 (“Freshman Student Profile”, 2008).

The SONA registration process used for this study (details provided in the Procedures section) required students to specify their class section, race/ethnicity, and gender. This registration information provided additional data concerning the Asian American group. Of these 41 participants, 13 (31.7%) identified themselves as Chinese, 13 (31.7 %) as Korean, 9 (22.0 %) as “other Asian or Pacific Islander,” and 6 (14.6 %) identified themselves as Asian Indian. Participant ages ranged from 18 to 51 years, with $M = 19.38$ and $SD = 3.56$. Students’ GPA’s ranged from 1.40 to 4.00, with $M = 3.14$ and $SD = 0.52$. For freshmen, their High School GPA was used, whereas college GPA was used for non-freshmen. The sample includes 102 (65.8 %) freshmen, 33 (21.3 %) sophomores, 15 (9.7 %) juniors, and 5 (3.2 %) seniors. Four students indicated that they
were in the university Honors program and four students indicated that they belong to an academic honor society. In this sample, 108 (69.7%) students had GPA’s lower than 3.50, 44 (28.4%) had GPA’s of 3.50 or higher, and 3 (1.9%) did not give their GPA.

Procedures

Participants for this study were undergraduate students at VCU. They received course credit for their participation. All students were participants in the Psychology Department’s SONA web-based research system. The SONA system was used to advertise, screen, and give credit to students for their participation. This system also allowed students to choose which studies they preferred to participate in, based upon a short description of studies given on this web site. This study was listed by the title “Self-appraisals, Perfectionism, and Academics.” The purpose of the study was stated as “to learn about how the ways you think and feel about yourself relate to your academic behaviors and outcomes.” In order for students to participate in the SONA system, they had to be at least 18 years of age (so that parental consent was not required).

Students registered for specific times to complete the hard copy study surveys. Data were collected in small (e.g., fewer than 25 students at a time) groups during the final week of the Fall 2007 semester. Potential participants first read the consent form for the study and then signed the form if they decided to participate (all students who presented to a scheduled session decided to participate). Time to complete the study package of questionnaires (given in Appendix A) was approximately 20 to 40 minutes, with most students finishing within 30 minutes. When the students handed in their
questionnaire packet, they were given a debriefing statement (given in Appendix B) to read or take with them. Students were then credited within SONA for their participation.

*Measures*

Measures used in the present study are provided in Appendix A. The order of the measures is the same as given to all study participants. Questionnaires were not counterbalanced as research has demonstrated that participants are less likely to answer measures at the end of packets (Green, Murphy, and Snyder, 2000). Thus, the questionnaire packet was ordered such that measures considered more important to the analysis were located at the beginning of the packet. The measures presented in Appendix A have their full name spelled out and give information relative to reverse-scored items and how to calculate scale values. This information was not included in the version of the questionnaires provided to participants.

*Demographics and Single-Item Questions*

This questionnaire was used to gather descriptive statistics of the sample and to gather gender, racial, and academic-related data for study analyses.

*Predictor Variables: The Visible Self*

*Race and Gender.* For the hierarchical multiple regression analyses reported in the next chapter, dummy variables were created to represent the various combinations of race and gender examined in this study. Since the majority of perfectionism studies to date have been with college students (Stoeber & Otto, 2006) and these samples have been predominantly female and White. Therefore, this race/gender group was chosen to serve as the reference group for this study. As suggested by Hardy (1993), the six groups
(three races by two genders) were represented by five dummy-coded variables. These variables are: White men, Black women, Black men, Asian American women, and Asian American men.

**Predictor Variables: Global Self-Evaluations**

*Self-Esteem.* Self-esteem was measured by the Rosenberg (1965) Self-Esteem Scale (RSES). The RSES was designed to measure global feelings of self-worth or self-acceptance. The RSES consists of 10 items, scored with a scale from 1 = “strongly disagree” to 4 = “strongly agree.” Higher scores indicate higher self-esteem. Internal consistencies (Cronbach’s $\alpha$) have been reported to range from .77 to .88, depending upon the sample. Test-retest reliabilities were reported as .82 for a one-week interval and .85 for a two-week interval. As suggested by Tafarodi and others (Bardone, Perez, Abramson, & Joiner; Tafarodi & Milne, 2002; Schmitt & Allik, 2005), self-esteem consists of two factors: self-liking and self-competence. These dimensions can be measured using the RSES. Tafarodi and Milne (2002) have demonstrated that the first five items of the RSES relate to self-competence (SE-competence) and the second five items of the RSES relate to self-liking (SE-liking). Tafarodi and others (Bardone, Perez, Abramson, & Joiner; Tafarodi & Milne, 2002; Schmitt & Allik, 2005) have provided evidence of construct validity in that the SE-liking and SE-competence scores correlated in theoretically expected directions with other measures. In the regression analyses in the next chapter, self-liking and self-competence are used to represent self-esteem. In the present study, Cronbach’s alphas were: .85 for the full RSES, .81 for SE-liking, and .77 for SE-competence.
**Proneness to Shame and Guilt.** Shame and guilt proneness (tendency to experience these emotions across situations) will be measured with the shame- and guilt-proneness scales of the Test of Self-Conscious Affect-3 (TOSCA-3; Tangney & Dearing, 2002). The full TOSCA-3 assesses shame-proneness, guilt-proneness, externalization, detachment/unconcern, alpha pride (pride in self), and beta pride (pride in behavior). It consists of 11 negative and five positive scenarios encountered in everyday life. Participants rate their likelihood of reacting to each scenario on a five-point scale, anchored by 1 = “not likely” and 5 = “very likely.” Higher scores indicate higher levels of the measured construct. Tangney and Dearing (2002) reported internal consistencies (Cronbach’s α) for the full 16-item TOSCA-3 ranging from .70 to .83 for guilt-proneness and .76 to .88 for shame-proneness in three samples of university students. Test-retest reliability was not reported. This study uses the short version of the TOCSA-3, which eliminates the five positive scenarios and thus the alpha and beta pride scores. Tangney and Dearing (2002) reported that the shame- and guilt-proneness scale scores on the short version of the TOSCA-3 had correlations of .94 and .93 respectively, with the score from the full 16 scenario version. Evidence for convergent and discriminant validity of the original TOCSA was given in Tangney, Wagner, and Gramzow (1992). In the present study, α’s were .69 and .68 for shame-proneness and guilt-proneness, respectively.

**Predictor Variables: Academic Domain-Specific Evaluative Factors**

**Academic Self-Confidence.** Academic self-confidence was measured by the same-named scale from the Personal Evaluation Inventory (PEI; Shrauger & Schohn, 1995). Shrauger and Schohn (1995) defined self-confidence as an aspect of self-
evaluation defined as a person’s sense of his or her own competence or skill and perceived capability to deal effectively with situations. The academic scale consists of seven items, answered with a scale from 1 = “strongly disagree” to 4 = “strongly agree”, with higher scores reflecting higher academic self-confidence. Shrauger and Schohn (1995) reported that internal consistency, as measured by coefficient alpha, was .81 for women and .77 for men. They also reported one-month test-retest reliabilities as .80 for women and .93 for men. They provided evidence for construct validity by demonstrating that the PEI-A varied in expected ways with self-esteem and GPA in a college student sample. In the present study, \( \alpha \) was .78.

**Academic Performance Expectations.** Students’ academic performance expectations were measured by answers to “What do you think is the highest GPA you could realistically expect to obtain in college?” and “What do you think your parents would like your GPA to be (italics in the original questionnaire)?” The second question is in keeping with the multidimensional conceptualization of perfectionism, namely that some people’s perfectionism stems from perceived social demands from important others.

**Satisfaction with Performance.** Students were asked to answer the questions “How satisfied are you with your current GPA (italics in the original questionnaire)?” and “How satisfied do you think your parents are with your GPA (italics in the original questionnaire)?” Students answered using a scale from “ Completely dissatisfied” (scored as “1”) to “Completely satisfied” (scored as “7”).
Honors Eligibility (GPA 3.50 or above). Given that the majority of students in this sample were first semester freshmen, they had not yet had time to achieve a university GPA or become eligible for membership in academic honor societies. A dichotomous variable was created to indicate whether, if they maintained their high school GPA in college, they would be eligible to join the VCU Honors College (that requires maintaining a cumulative GPA of 3.50 on a 4.00 maximum scale) or an academic honor society. Thus, a proxy variable was created such that students with GPA less than 3.50 were coded “0” and students with GPA of 3.50 or higher were coded “1.”

Criterion Variables: Adaptive and Maladaptive Perfectionism

Almost Perfect Scale-Revised (APS-R). The APS-R (Slaney et al., 1996) consists of 23 items. It has three subscales: High Standards, Order, and Discrepancy. Items are answered on a 7-point Likert scale ranging from 1 = “strongly disagree” to 7 = “strongly agree.” Internal consistency, measured by coefficient alpha, is high, with values of .92 for Discrepancy, .85 for High Standards, and .86 for Order. No information is available for test-retest reliability. Concurrent and discriminant validity have been established (Rice et al., 1998; Slaney et al., 2001). Cluster analyses to use the APS-R to classify students as nonperfectionists, adaptive perfectionists, and maladaptive perfectionists (Rice & Ashby, 2007) have found that the Order subscale score does not contribute to the classification process. Similarly to previous researchers (e.g., Stoeber et al. (2007); Wei et al., 2007), the present study, uses the High Standards scale as the criterion for adaptive perfectionism and the Discrepancy scale as the criterion for maladaptive perfectionism.
Reliabilities (coefficient alpha) for these scales in the current sample were .84 for High Standards and .91 for Discrepancy.

Criterion Variable: Procrastination

Procrastination. Academic trait procrastination was measured with the Aitken Procrastination Inventory (API; Aitken, 1982). The API consists of 19 items. Each statement is rated on a 5-point scale from False (1) to True (5). Higher scores represent higher procrastination. Internal consistency, as measured by coefficient alpha, was .82 in the original 1982 sample of university students. No data is available on test-retest reliability. Convergent and discriminant validity have been established for the API (Ferrari, Johnson, & McCown, 1995). Scale reliability for the current sample was indicated by a coefficient $\alpha$ of .80.
Data Inspection and Preliminary Analyses

The technique of checking to ensure that values entered in the data set were within the permissible range for each item was used to identify data entry mistakes. When out-of-range values were identified, the hard copy of the student’s responses was retrieved and examined in order to re-enter corrected values. Once correct raw data values were obtained, scale scores were calculated. In cases of missing responses to items, a participant’s scores that were present were used to calculate a mean value that was then used to estimate the scale score. The rule-of-thumb used for this process was that up to approximately 20% of individual items could be missing and a scale score could still be calculated. For example, the Self-Esteem Competence and Liking scales each have 5 items. If one item were missing, the scale score was calculated from the mean value of the four items that were present. If more than one item was missing, the scale score would not have been calculated.

Tangney (Tangney & Dearing, 2002) has suggested using residual scores when analyzing guilt and shame-proneness data from the TOSCA measures. This is because it is common for the scenarios in the TOSCA to cause respondents to feel both shame and guilt at the same time. Thus, she recommends partialling guilt out of shame proneness and partialling shame out of guilt proneness. This is done, for example, by predicting shame proneness based upon guilt proneness. The residual value for shame is the value
for how much an individual’s shame-proneness score differs from the predicted value.

This residual value results in a “guilt-free” shame-proneness score. A similar process is
used to obtain “shame-free” guilt-proneness scores. While the residual values will be
used in the regression analyses that follow, sample values for shame- and guilt-proneness
will be provided in Table 3 for describing the sample characteristics, since not all
researchers have used residual values in their works.

Likewise, although scores for the APS-R Order scale and the total score for the
Rosenberg Self-Esteem Scale will not be used in the regression analyses, they are
presented in Table 3 below for sample-comparison purposes, since these scales have been
used in previous perfectionism studies.

<table>
<thead>
<tr>
<th>Table 3 Descriptive Statistics for Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>Rosenberg Self-Esteem (SE) Scale</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>SE-Liking</td>
</tr>
<tr>
<td>SE-Competence</td>
</tr>
<tr>
<td>TOSCA-3S</td>
</tr>
<tr>
<td>Guilt proneness</td>
</tr>
<tr>
<td>Shame proneness</td>
</tr>
<tr>
<td>Guilt residual</td>
</tr>
<tr>
<td>Shame residual</td>
</tr>
<tr>
<td>Academic Self-Confidence (PEI)</td>
</tr>
<tr>
<td>Student GPA satisfaction</td>
</tr>
<tr>
<td>Student highest GPA expected</td>
</tr>
<tr>
<td>Perceived Parents’ GPA satisfaction</td>
</tr>
<tr>
<td>Perceived parents’ desired GPA</td>
</tr>
<tr>
<td>APS-R</td>
</tr>
<tr>
<td>High Standards</td>
</tr>
<tr>
<td>Discrepancy</td>
</tr>
<tr>
<td>Order</td>
</tr>
<tr>
<td>API</td>
</tr>
</tbody>
</table>

*Note.* TOSCA-3S = Test of Self-Conscious Affect, Version 3, Short form; PEI = Personal Evaluation Inventory; GPA = Grade Point Average; APS-R = Almost Perfect Scale-Revised; API = Aitken Procrastination Inventory.
A number of important results can be gleaned from Table 3. Students’ scored above the median value of the scales on all measures except for the API. The sample’s mean value for APS-R High Standards, 41.4, is very close to the cut-off score of 42 required to identify a person as an adaptive perfectionist (Rice & Ashby, 2007). The mean value for the Discrepancy scale of the APS-R, 45.2, is above the cut-off score of 42 required to consider a person as a maladaptive perfectionist (Rice & Ashby, 2007).

The $\alpha$ values for the shame- and guilt-proneness scales of the TOSCA-3S are the lowest of any scales used in this study. However, this was expected, as there is less internal consistency in scenario-based measures (Tangney & Dearing, 2002). However, the $\alpha$ values for shame- and guilt-proneness are nearly .70, and are thus sufficient for research purposes (Nunnally, 1978). It can also be noted that the mean values for the shame and guilt residuals are very close to zero (-0.1 and -0.2, respectively), indicating that there is no off-set; e.g., the residuals are roughly centered about a value of zero.

The sample mean for the API ($M = 54.8$, $SD = 10.0$), while being below the scale median value of 57, is noticeably higher than was obtained in two recent studies using the API. Moon and Illingworth (2005) had a scaled sample mean of 2.58, which would equal a value of 49 for the full 19-item scale. Owens, Bowman, and Dill (2008) reported that their sample had a $M = 49.59$, $SD = 10.84$ for the API. Thus, it would appear that approximately 49 is a reasonable sample mean value for samples comprised primarily of White women. Using the values from Owens, Bowman, and Dill (2008), it would appear
that the current sample of this study has a higher trait procrastination value, with an effect size of approximately .50, which would be considered as a medium effect.

Students’ satisfaction with their current GPA and their perception of their parents’ satisfaction with their GPA are both close to the single-item scale median of 4 ("Neutral – neither dissatisfied or satisfied"). In fact, the correlation between the two satisfaction variables is very high, \( r = .703, p < .001 \). This implies that students’ own sense of satisfaction (low or high) with their GPA closely mirrors that of what they infer their parents’ satisfaction to be. However, a paired samples \( t \)-test revealed that the two values are significantly different, \( t = -2.510, p < .05 \), such that students feel that their parents are approximately 0.3 points more satisfied with their GPA than they themselves are.

Interestingly, the results are somewhat different in terms of actual GPA numbers. Students’ “highest GPA you could realistically expect to obtain in college” has \( M = 3.60, SD = .30 \) while their perception of “What do you think your parents would like your GPA to be?” has \( M = 3.72 \). For these two variables, the correlation is \( r = .233, p < .01 \), which is between “small” and “medium” per J. Cohen and P. Cohen (1983). A paired sample \( t \)-test indicated that the values are significantly different, \( t = -3.762, p < .001 \), such that students, on average, perceive their parents’ desired GPA for them as being approximately 0.10 point higher than they feel they can realistically obtain. Thus, while students on average feel that their parents are more satisfied than they are with their GPA’s, they also feel that their parents wish their GPA were higher than it is.
Organization and Order of Results

The hypotheses for this study are all examined within three hierarchical multiple regressions (HMR’s), one each for adaptive perfectionism, maladaptive perfectionism, and procrastination. Additionally, chi square analyses are used for additional exploration of Hypotheses 1 and 7. Since the frequency table for the chi square analysis of Hypothesis 1 also serves as a valuable sample descriptive tool, it will be discussed first. Next, group-level differences on study variables will be presented and discussed, based on a MANOVA analysis for race and t tests for gender differences.

After this, the results for the HMR’s will be presented in the order given above. The regressions for adaptive and maladaptive perfectionism address multiple hypotheses. These hypotheses will be discussed together in the section of the HMR in which they are addressed. After the perfectionism regression sections, the chi square analysis for perfectionism by GPA level (part of the analysis for Hypothesis 6) will be presented. Finally, the regression analysis regarding procrastination (Hypothesis 7) will be presented.

Hypothesis 1: Frequency and Group-Level Analyses

Once the APS-R High Standards and Discrepancy scores were calculated, it was possible to classify participants into one of three perfectionist groups: non-perfectionists, adaptive perfectionists, and maladaptive perfectionists, using the procedures given in Rice and Ashby (2007). This resulted in 71 (45.8%) of the participants being in the non-perfectionist group, 44 (28.4%) in the adaptive perfectionist group, and 40 (25.8%)
students in the maladaptive perfectionist group. When the participants’ race and perfectionism group were jointly considered, there was a significant difference in the cell frequencies, with $\chi^2 (4, N = 155) = 15.770$, $p = .003$, with an effect size indicated by Cramer’s $V = .226$, $p = .003$. When the sample was also grouped by gender (as shown in Table 3), the differences in perfectionism frequency due to gender were not significant, with $\chi^2 (4, N = 80) = 7.046$, $p = .133$ for females and $\chi^2 (4, N = 75) = 9.026$, $p = .60$ for males. As can be observed in Table 4, there is a higher frequency (using percentage values to normalize for differing group sizes) of Asian Americans in the maladaptive perfectionist category and a higher frequency of African Americans in the adaptive perfectionist group.

Thus, the chi square results partially support Hypothesis 1a, with Asian Americans being higher than Whites in maladaptive perfectionism, but do not support 1a for African Americans, since they are not lower than Whites in maladaptive perfectionism. Additionally, the chi square results do not support Hypothesis 1b since there is no significant gender difference in perfectionism type.
Table 4

*Numbers and Proportions of Perfectionists by Race and Gender*

<table>
<thead>
<tr>
<th></th>
<th>African American</th>
<th></th>
<th>European American</th>
<th></th>
<th>Asian American</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>Non-Perfectionists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>10</td>
<td>10</td>
<td>15</td>
<td>12</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>(%)</td>
<td>(32.3)</td>
<td>(38.5)</td>
<td>(45.5)</td>
<td>(50.0)</td>
<td>(50.0)</td>
<td>(64.0)</td>
</tr>
<tr>
<td>Adaptive Perfectionists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>15</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>(%)</td>
<td>(48.4)</td>
<td>(38.5)</td>
<td>(27.3)</td>
<td>(29.2)</td>
<td>(12.5)</td>
<td>(4.0)</td>
</tr>
<tr>
<td>Maladaptive Perfectionists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>(%)</td>
<td>(19.4)</td>
<td>(23.1)</td>
<td>(27.3)</td>
<td>(20.8)</td>
<td>(37.5)</td>
<td>(32.0)</td>
</tr>
<tr>
<td>Column Totals</td>
<td>31</td>
<td>26</td>
<td>33</td>
<td>24</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>(%)</td>
<td>(100.0)</td>
<td>(100.0)</td>
<td>(100.0)</td>
<td>(100.0)</td>
<td>(100.0)</td>
<td>(100.0)</td>
</tr>
</tbody>
</table>

Race and gender differences for study variables were explored by testing group mean values. A single-factor MANOVA was conducted for the three racial groups and a *t* test was conducted for female and male students (across race). This strategy was used because post-hoc multiple comparisons for MANOVA requires three or more groups; thus, if gender were included in the MANOVA, pairwise comparison would be based on estimated means vice observed (actual) means. By conducting a separate analysis of means (via *t* tests) for gender, it was possible to use observed group mean values.
The variables used for the comparison of means consisted of those given in Table 4, with the following exceptions. Due to multicollinearity considerations (to be discussed in detail for Hypothesis 2), total self-esteem and students’ rating of their parents’ satisfaction with their GPA were not included. The Honors Eligible variable (based on GPA), which is dichotomous, was not used. Students’ GPA was used instead, since the tests require continuous variables for DV’s.

The MANOVA for race was significant, with Wilks’ Λ = .641, \( F(24, 268) = 21.776, p < .001, \eta^2_p = .199 \). To help protect against experiment-wise error, a Bonferroni adjustment was utilized. For this analysis, \( N = 148 \), due to the MANOVA listwise deletion requirement (e.g., all variables had to be present for each participant). Post-hoc comparisons, using the Tukey HSD test, found significant differences for five of the 12 variables examined. Mean values for the significant variables are given in Table 5. All of the non-significant variables had \( \eta^2_p \) values less than .040, meaning that they had relatively small effect sizes (values of .01 and .06 are considered “small” and “medium,” respectively, per Cohen, 1988).
Table 5

Variables With Significant Differences Across Race

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>F*</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSES Liking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>15.804&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.423</td>
<td>4.412</td>
<td>.014</td>
<td>.057</td>
</tr>
<tr>
<td>White</td>
<td>14.500</td>
<td>.431</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>13.947&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.514</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RSES Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>18.089&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.300</td>
<td>4.945</td>
<td>.008</td>
<td>.064</td>
</tr>
<tr>
<td>White</td>
<td>17.315</td>
<td>.305</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>16.625&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.364</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOSCA-3S Shame Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>-3.207&lt;sub&gt;a,b&lt;/sub&gt;</td>
<td>.796</td>
<td>12.318</td>
<td>.000</td>
<td>.145</td>
</tr>
<tr>
<td>White</td>
<td>1.622&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.810</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>2.033&lt;sub&gt;b&lt;/sub&gt;</td>
<td>.966</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APS-R High Standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>43.214&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.730</td>
<td>4.942</td>
<td>.008</td>
<td>.064</td>
</tr>
<tr>
<td>White</td>
<td>41.019</td>
<td>.744</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>39.737&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.886</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APS-R Discrepancy</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Black</td>
<td>41.571&lt;sub&gt;a&lt;/sub&gt;</td>
<td>1.780</td>
<td>10.079</td>
<td>.000</td>
<td>.122</td>
</tr>
<tr>
<td>White</td>
<td>43.921&lt;sub&gt;b&lt;/sub&gt;</td>
<td>1.813</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>53.737&lt;sub&gt;a,b&lt;/sub&gt;</td>
<td>2.161</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note. RSES = Rosenberg Self-Esteem Scale; TOSCA-3S = Test of Self-Conscious Affect, version 3, Short form; APS-R = Almost Perfect Scale-Revised.

<sup>a</sup>Means for each variable that share subscripts differ at p < .05 in the Tukey HSD difference comparison.

<sup>b</sup>df = (2, 145).

The results of Table 5 indicate that the self-liking component of global self-esteem is significantly lower for Asian Americans (M = 13.947, SD = .514) than it is for African Americans (M = 15.804, SD = .423). The value for White Americans is in between the other groups, but the differences are not significant. Similar results emerged for the competence component of self-esteem. For the shame-proneness residual, African Americans were significantly less likely to feel shame in the TOSCA-3S scenarios than were White or Asian American participants. Asian Americans scored the highest for the shame residual, but the difference between them and White Americans was not
significant. A similar pattern of results emerged for the APS-R High Standards and Discrepancy scale scores. Asian Americans had the lowest scores for High Standards, followed by Whites and African Americans, with the difference between Asian Americans and African Americans being statistically significant. On the Discrepancy scale, African Americans had the lowest scores, followed by White Americans, and Asian Americans. The differences between Asian Americans and other two groups were significant, but the difference between African Americans and Whites was not. Overall, the results of the MANOVA analysis of group differences based on race indicated that African Americans scored the highest on positive indicators of mental health (liking and competence, High Standards) and lowest on negative indicators (shame residual and Discrepancy). The results were the exact opposite for Asian Americans, with their scores being lowest on the positive indicators and highest on the negative indicators. The differences between African Americans and Asian Americans were statistically significant for all five variables. White Americans’ scores were in the middle of the other two groups for all five variables but were only significantly different from those of Asian Americans and only for the shame residual and Discrepancy scores.

The results of the MANOVA supported Hypothesis 1a in that African Americans were lower, and Asian Americans were higher, than Whites in maladaptive perfectionism.
Differences in study variables for female and male students are given in Table 6.

Four variables were statistically significant at the \( p < .05 \) level and an additional variable, academic self-confidence, with \( p = .053 \) was also included in Table 6.

Table 6

**Variable Differences Across Gender**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Women</th>
<th>Men</th>
<th>( N )</th>
<th>( M )</th>
<th>( SD )</th>
<th>( t^a )</th>
<th>( p^b )</th>
<th>( d^c )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOSCA-3S Guilt Residual</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>80</td>
<td>1.126</td>
<td>4.530</td>
<td>3.333</td>
<td>.001</td>
<td>.492</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>75</td>
<td>-1.541</td>
<td>5.415</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Academic Self-Confidence (PEI)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>80</td>
<td>19.212</td>
<td>4.251</td>
<td>-1.951</td>
<td>.053</td>
<td>-.338</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>75</td>
<td>20.467</td>
<td>3.714</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Student highest GPA expected</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>80</td>
<td>3.549</td>
<td>.284</td>
<td>-2.207</td>
<td>.029</td>
<td>-.344</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>75</td>
<td>3.653</td>
<td>.303</td>
<td></td>
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<td></td>
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<tr>
<td><strong>GPA</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Women</td>
<td>80</td>
<td>3.257</td>
<td>.465</td>
<td>2.919</td>
<td>.004</td>
<td>.436</td>
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<td></td>
</tr>
<tr>
<td>Men</td>
<td>72</td>
<td>3.016</td>
<td>.552</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>APS-R High Standards</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>80</td>
<td>42.412</td>
<td>5.388</td>
<td>2.235</td>
<td>.027</td>
<td>.344</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>75</td>
<td>40.387</td>
<td>5.895</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* TOSCA-3S = Test of Self-Conscious Affect, Version 3, Short form; PEI = Personal Evaluation Inventory; GPA = Grade Point Average; APS-R = Almost Perfect Scale-Revised.

\( ^a df = [(N_{female} + N_{male}) - 2] \). \( ^b \) Two-tailed. \( ^c \) Cohen’s \( d \) effect size calculated as \( (M_{female} - M_{male})/SD_{male} \).

Gender differences for significant, or nearly significant variables form an interesting pattern with respect to academics. Female students, who are slightly higher as a group on the APS-R High Standards scale, reported having a significantly higher GPA than male students (3.257 vs. 3.016), yet female students had significantly lower academic self-confidence and had a significantly lower expectation of the maximum GPA they could obtain, \( M = 3.549 \), compared with male students \( (M = 3.653) \). The TOSCA-3S guilt-proneness residual score. Female students, on average, reported having more “shame-free” guilt-proneness \( (M = 1.126) \) than male students \( (M = -1.541) \).
The results of the \( t \) test supported Hypothesis 1b in that women were higher in adaptive perfectionism than men.

*Pre-Regression Correlation Analysis*

Correlation tables serve several purposes. They give data that are both descriptive of the sample and inferential to the population of interest. Examining the results of the correlation table of study variables is an important pre-cursor to conducting multiple regression analysis, as a way to screen for multicollinearity (Leech et al., 2008).

Hardy (1993) suggested a methodology, using “dummy” variables, whereby the groupings of interest in this study, race and gender, can be more directly examined. Instead of having one dummy variable for gender, and two separate dummy variables for race, it is possible to cover six race and gender combined groupings with the use of five race/gender dummy variables. This has the promise of facilitating a more direct interpretation of the regression analyses. Thus, the six race and gender combinations were represented by five discrete dummy variables, labeled “White Men”, “Black Women”, “Asian Women”, and “Asian Men.” The use of the term “Asian” vice “Asian American” in this context is used as a short-hand for space considerations in the table. The comparison group for the aforementioned groups is “White Women”, which was chosen as the vast majority of perfectionism studies to date have had primarily White female samples. The comparison group, which has a value of “0” for all five dummy variables, would be redundant to include in the analysis, and, in fact, SPSS (v11.5) will not allow its inclusion due to numerical over-specification. For the five race and gender
variables, the value is “1” if the condition is true; e.g., “1” for Asian Women for an Asian American woman, and “0” for all the other race/gender variables.

Thompson (Courville & Thompson, 2001; Thompson, 2006) has stressed that it is essential that researchers include correlations for all variables used in multiple regression analyses, since effect size is a function of both beta weights and correlations. This principle is followed in Table 7. It is important to note that correlations between dummy variables merely relate to their relative numerical proportions in the sample. Finally, given their wide use in research, total self-esteem and student GPA are included for comparison purposes, even though they are not directly used in the regression analyses.
### Table 7

**Correlations for Study Variables**

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<tr>
<th>Measure</th>
<th>1</th>
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<th>3</th>
<th>4</th>
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<td>-.219**</td>
<td>.220**</td>
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<td>.177*</td>
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(Table 7 continues)
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<tr>
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<th>13 Parent GPA Sat</th>
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<th>15 Parent Max. GPA</th>
<th>16 GPA</th>
<th>17 Honors Eligible</th>
<th>18 APS-R Standards</th>
<th>19 APS-R Discrep.</th>
<th>20 API</th>
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<td>1. White Men</td>
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<td>-.086</td>
<td>.047</td>
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<td>3. Black Men</td>
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<td>-.100</td>
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<td>.369**</td>
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</table>

(Table 7 continues)
(Table 7 continued)

<table>
<thead>
<tr>
<th>Measure</th>
<th>13 Parent GPA Sat.</th>
<th>14 Student Max. GPA</th>
<th>15 Parent Max. GPA</th>
<th>16 GPA</th>
<th>17 Honors Eligible</th>
<th>18 APS-R Standards</th>
<th>19 APS-R Discrep.</th>
<th>20 API</th>
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<td>.337**</td>
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<td>15. Parent Max. GPA</td>
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<td>.206*</td>
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<td>-.235**</td>
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<td>17. Honors Eligible</td>
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<td>.253**</td>
<td>-.147</td>
<td>-.229**</td>
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<tr>
<td>18. APS-R Standards</td>
<td></td>
<td>-</td>
<td>-.158*</td>
<td>-.342**</td>
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<td>19. APS-R Discrep.</td>
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<td>.305**</td>
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<td>20. API</td>
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</table>

*Note.* Race/gender measures are dummy variables coded such that they are 1 when true and 0 otherwise. White women are the comparison group for the five race and gender dummy variables. SE = Self-Esteem, from the Rosenberg Self-Esteem Scale. Comp. = Competence. The guilt and shame residuals are calculated from the similar scales on the Test Of Self-Conscious Affect-3S. The guilt residual partials out the variance attributed to shame, while the shame residual partials out the variance due to guilt. Academic Self-Conf. is the score from the Academic Self-Confidence scale of the Personal Evaluation Inventory. GPA = Grade Point Average; Sat. = Satisfaction; Max. = Maximum. Honors Eligible is a dummy variable coded such that it is 0 for student’s cumulative GPA less than 3.5 and coded as 1 for GPA’s 3.5 or higher. APS-R = Almost Perfect Scale-Revised; Discrep. = Discrepancy scale of the APS-R; API = Aitken Procrastination Inventory. 

*p < .05, **p < .01 (both are 2-tailed).*
Additional correlations that may be of interest to future researchers are for the inter-relationship of the APS-R scales and the relationships between the TOSCA-3S variables and their residual values. The APS-R Order scale’s correlations with High Standards and Discrepancy are: \( r = .457, p < .01 \), and \( r = .002, p = .976 \), respectively. For the TOSCA-3S, shame- and guilt-proneness have \( r = .224, p < .01 \). This is consistent with the overlap typical in these constructs and is the reason for the partialling process recommended by Tangney (Tangney & Dearing, 2002). In this process, a shame residual value is calculated by partialling out the variance in shame attributed to guilt. Likewise, a guilt residual value is calculated by partialling out the variance in guilt attributed to shame. These processes result in residual values that are considered “free” from the effects of the other construct. This helps explain the correlation seen in Table 5 for the shame and guilt residuals, \( r = -.405, p < .01 \). As the guilt residual increases, the shame residual decreases. Not shown in Table 7, but of potential interest are that shame-proneness and its residual have \( r = .943, p < .001 \), while guilt-proneness and its residual have \( r = .954, p < .01 \).

While there are a number of “large” correlations (\( r = .50 \) or higher; Cohen, 1988) in Table 7, there is only one relationship amongst multiple regression variables with a value greater than .70. Student’s satisfaction with their GPA and their rating of their parents’ satisfaction with their GPA have \( r = .703, p < .01 \). Tabachnick and Fidell (2007) caution against including two variables with correlations of .70 or higher in the same
multivariate analysis. Based upon this suggestion, only students’ self-rating of GPA satisfaction will be used in the regression analyses.

Regression Analysis Predicting Adaptive Perfectionism (Hypotheses 1, 2, 4, and 6)

Results of a hierarchical multiple regression for predicting adaptive perfectionism, are given in Table 8.
Table 8

*Multiple Regression Results for Predicting Adaptive Perfectionism (APS-R High Standards)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$sr^2$</th>
<th>$\Delta R^2$</th>
<th>$R^2$</th>
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<tr>
<td>(Constant)</td>
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<td>Guilt Res.</td>
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<td>.193</td>
<td>.101**</td>
<td>.387***</td>
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</table>

*Note. See Table 7 Note. Values of Adjusted $R^2$ are: .072 for Step 1, .242 for Step 2, and .326 for Step 3.  
*< .05, **< .01, ***< .001.*
Before discussing specific aspects of the results, it is important to point out some features associated with the use of dummy variables in multiple regression analyses. This information comes from J. Cohen and P. Cohen (1983). All partial coefficients of a predictor, including $sr^2$, $\beta$, and $B$ depend on the relative sizes for each dummy variable (e.g., the proportion of $n_{\text{group}}$ to the total sample $N$). This is a statistical reason for the desirability of equal numbers of participants in each group. There is, however, one piece of good news relative to dummy variables in multiple regression. Raw-score regression coefficients (e.g., $B$ values) are “differences between means and thus do not depend on the relative sizes of the groups” (Cohen & Cohen, 1983, p. 194).

This means that, while it is typical in multiple regression results to give much attention to standardized regression weights, or the $\beta$ values, that for dummy variables, comparisons should be made amongst groups based on the $B$ values. Furthermore, all regression partial coefficients, including $B$, $\beta$, and $sr^2$, share the same significance tests, such that if one is significant, they all are (Cohen & Cohen, 1983) and at the same $p$ value.

To directly connect these features to the results of Table 8, the general regression equation for step 1 would be given by Equation 1.

$$Y = \text{Constant} + B_{WM}X_{WM} + B_{BW}X_{BW} + B_{BM}X_{BM} + B_{AW}X_{AW} + B_{AW}X_{AW}$$ (1)
In Equation 1, $Y$ is the criterion, in this case, the APS-R High Standards score in raw, or unstandardized, units. The Constant represents the value for $Y$ when all variables are zero (or, the “y intercept”), the $B$ values are the raw score regression coefficients, the $X$’s are the variable values for a given case. The subscripts represent the five dummy variables, with $W =$ White, $B =$ Black, $A =$ Asian, $M =$ man, $W =$ woman. As previously mentioned, the comparison group for these analyses are White women. Thus, when a participant is a White woman, all of the $X$ values are equal to zero. Thus, the Constant in the equation represents the mean value of the variable for the comparison group of White women. This further means that the $B$ values for the other five race and gender groups represents their mean differences from the comparison group. For the dichotomously coded dummy variables, for each participant only one $X$ will be 1 while the other $X$ values will be zero. For example, for White men, $X_{WM} = 1$ and all the other $X$ values equal 0. Thus the $B_{WM}$ value represents a difference score from the comparison group.

Referring to Table 8, Step 1, the group mean score on APS-R High Standards for White women is 41.879 and the group mean score for White men is –1.587 points lower than the value for White women. An examination of all the $B$ scores in Step 1 indicates that the only significant difference that exists is between Asian men and White women ($B = -3.839, p < .01$), meaning that they scored an average of 3.839 points lower than White women on the High Standards scale.

The dummy variable for Asian men is the only significant variable in Step 1, yet Step 1 explains a significant portion of the variance in High Standards, $\Delta R^2 = .102, p <$
.01, meaning that considering only race and gender explains 10.2% of the variation in High Standards scores for the sample.

Step 2 adds the cognitive and affective self-evaluation variables of Self-Esteem Liking and Competence, and the Guilt- and Shame-proneness residual scores. The addition of these variables to the model resulted in a significant increase in the amount of variance explained, with $\Delta R^2 = .184$, $p < .001$. With the addition of these variables, the Asian men variable is no longer a significant predictor. The Self-Esteem Competence and Guilt-proneness residual variables emerge in this step as significant predictors, with $\beta = .250$ and .300, respectively, both $p$’s $< .01$. The beta weights can be interpreted in the typical fashion for the non-dummy variables in each step.

The final step of the regression adds academic-domain variables to the model. This step adds significantly to the prediction of High Standards, with $\Delta R^2 = .101$, $p < .01$. The final model accounted for $R^2 = .387$, $p < .001$; however, this value must be adjusted to account for sample size ($n$) and the number of variables ($k$) used in the analysis. The adjustment for $n$ and $k$ corrects the sample $R^2$ value to yield an estimated $R^2$ for the population of interest. The correction is proportional to ($k/n$), such that it is smaller for larger samples and is larger when more predictor variables are used in the analysis. For the present case, the adjusted $R^2 = .326$, $p < .001$ This means that the overall model significantly accounts for 32.6% of the variance in High Standards for this sample. According to Cohen (1988), this value of $R^2$ would be considered as a large effect.
The final model represented by Step 3, with all variables included, had four significant predictors: Self-Esteem Competence, Guilt residual, Academic Self-Confidence, and Honors Eligible (students whose GPA is 3.50 or higher). Interestingly, the largest $\beta$ weight, and unique contribution to the prediction ($sr^2$), came from the guilt residual variable, with $\beta = .291$, $sr^2 = .241$, $p < .001$.

An analysis of the regression residuals, as suggested by Tabachnick and Fidell (2007), found that the requirements of linearity, normality, and homoscedasticity were met. Power was estimated for this regression using procedures outlined in Dunlap, Xin, & Myers (2004). With $N = 154$, $\alpha = .05$, population (adjusted) $R = .571$, and 14 predictor variables, power was 1.000. Thus, no predictive power appears to have been lost by using a reduced sample size (vs. the originally collected sample of $N = 225$) for this analysis.

**Support for Hypotheses.** The HMR predicting adaptive perfectionism (AP) did not support Hypothesis 1b in that none of the dummy variables for women significantly predicted AP. Hypothesis 2a was supported in that self-esteem competence and academic self-confidence predicted AP. Hypothesis 2b was not supported in that academic performance expectations did not predict AP. Hypothesis 4 was supported in that academic domain variables significantly improving the prediction of AP; however, of the academic self-appraisal and expectation variables, only academic self-confidence was significant. Hypothesis 6 was supported in that having a high, Honors-eligible GPA significantly predicted AP.
Regression Analysis Predicting Maladaptive Perfectionism (Hypotheses 1, 2, 3, 4, 5, and 6)

The results of the regression predicting maladaptive perfectionism (APS-R Discrepancy) are given in Table 9.
### Table 9

**Multiple Regression Results for Predicting Maladaptive Perfectionism (APS-R Discrepancy)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\beta$</th>
<th>$sr^2$</th>
<th>$\Delta R^2$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>41.152</td>
<td>2.324</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>White Men</td>
<td>5.545</td>
<td>3.582</td>
<td>.145</td>
<td>.120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Women</td>
<td>.268</td>
<td>3.340</td>
<td>.008</td>
<td>.006</td>
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<tr>
<td>Black Men</td>
<td>1.568</td>
<td>3.540</td>
<td>.042</td>
<td>.034</td>
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</tr>
<tr>
<td>Asian Women</td>
<td>12.473</td>
<td>4.067</td>
<td>.274**</td>
<td>.238</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Men</td>
<td>10.368</td>
<td>3.540</td>
<td>.275**</td>
<td>.227</td>
<td>.112**</td>
<td>.112**</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>86.928</td>
<td>7.920</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White Men</td>
<td>4.592</td>
<td>2.928</td>
<td>.120</td>
<td>.095</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Women</td>
<td>5.478</td>
<td>2.839</td>
<td>.158</td>
<td>.117</td>
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<td></td>
</tr>
<tr>
<td>Black Men</td>
<td>5.601</td>
<td>3.147</td>
<td>.149</td>
<td>.108</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Women</td>
<td>9.435</td>
<td>3.226</td>
<td>.207**</td>
<td>.177</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Men</td>
<td>9.033</td>
<td>2.938</td>
<td>.240**</td>
<td>.186</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE Liking</td>
<td>-1.936</td>
<td>.359</td>
<td>-.445***</td>
<td>-.327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE Comp.</td>
<td>-1.022</td>
<td>.478</td>
<td>-.167*</td>
<td>-.130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guilt Res.</td>
<td>.082</td>
<td>.201</td>
<td>.030</td>
<td>.025</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shame Res.</td>
<td>.298</td>
<td>.183</td>
<td>.137</td>
<td>.099</td>
<td>.359***</td>
<td>.470***</td>
</tr>
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<tr>
<td>(Constant)</td>
<td>86.197</td>
<td>13.860</td>
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<td></td>
</tr>
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<td>White Men</td>
<td>4.619</td>
<td>2.803</td>
<td>.121</td>
<td>.094</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Women</td>
<td>3.946</td>
<td>2.746</td>
<td>.114</td>
<td>.082</td>
<td></td>
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</tr>
<tr>
<td>Black Men</td>
<td>6.894</td>
<td>3.079</td>
<td>.183*</td>
<td>.128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Women</td>
<td>7.654</td>
<td>3.116</td>
<td>.168*</td>
<td>.140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Men</td>
<td>8.564</td>
<td>2.861</td>
<td>.227**</td>
<td>.171</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE Liking</td>
<td>-1.601</td>
<td>.347</td>
<td>-.368***</td>
<td>-.263</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE Comp.</td>
<td>-.701</td>
<td>.465</td>
<td>-.114</td>
<td>-.086</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guilt Res.</td>
<td>.129</td>
<td>.189</td>
<td>.048</td>
<td>.039</td>
<td></td>
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</tr>
<tr>
<td>Shame Res.</td>
<td>.162</td>
<td>.175</td>
<td>.075</td>
<td>.053</td>
<td></td>
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</tr>
<tr>
<td>Academic Self-Conf.</td>
<td>-1.015</td>
<td>.275</td>
<td>-.295***</td>
<td>-.211</td>
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<td></td>
</tr>
<tr>
<td>Student GPA Sat.</td>
<td>-.777</td>
<td>.540</td>
<td>-.098</td>
<td>-.082</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Max. GPA</td>
<td>1.241</td>
<td>3.264</td>
<td>.026</td>
<td>.022</td>
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<td></td>
</tr>
<tr>
<td>Parent Max. GPA</td>
<td>2.415</td>
<td>2.515</td>
<td>.058</td>
<td>.055</td>
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<td></td>
</tr>
<tr>
<td>Honors Eligible</td>
<td>1.109</td>
<td>1.964</td>
<td>.036</td>
<td>.032</td>
<td>.076**</td>
<td>.547***</td>
</tr>
</tbody>
</table>

*Note:* See Table 7. **Note:** Values of Adjusted $R^2$ are: .082 for Step 1, .437 for Step 2, and .501 for Step 3. $^*p < .05$, $^{**}p < .01$, $^{***}p < .001$. 


The results presented in Table 9 represent values present after removing a participant that emerged initially as a multivariate outlier. Regressions were checked for outliers by calculating and reviewing Cook’s $d$ (Fox, 1991). Cook’s $d$ combines leverage and influence and provides a measure of distance from the regression line. Large values indicate unusual data points. These data points exert a strong, disproportionate influence on the regression line and thus on $R$ and $R^2$. Values of Cook’s $d$ of .10 or higher are considered to be outliers and their removal from the analysis should be considered (W. L. Kliewer, personal communication, November 19, 2007).

The student participant whose combination of scores made him a multivariate outlier for APS-R Discrepancy had a Cook’s $d = .114$. This student, a male African American senior with a 3.80 GPA, had a very low Discrepancy score (26, approximately 1.4 standard deviation units below the sample mean), while also having Self-esteem scores that were over a standard deviation below the sample means (his scores were 15 and 10 for Liking and Competence, respectively), and a very high shame residual score (9.54, over 1.5 standard deviation units above the sample mean). Eliminating this student’s set of scores from the regression analysis for Discrepancy took away their undue influence on the regression results.

The results in Table 9 for Step 1 show that all groups have higher mean scores for Discrepancy than White women, but the differences were significant only for Asian American women and men, who scored 12.473 and 10.368 points higher, respectively,
than White females (both $p < .01$). Step 1 explains a significant portion of the variance in Discrepancy scores, $\Delta R^2 = .112, p < .01$, meaning that considering only race and gender explains 11.2% of the variation in Discrepancy scores for this sample.

Step 2 added the cognitive and affective self-evaluation variables of Self-Esteem Liking and Competence, and the Guilt- and Shame-proneness residual scores. The addition of these variables to the model resulted in a significant, and quite large, increase in the amount of variance explained, with $\Delta R^2 = .359, p < .001$. With the addition of these variables, the significance for Asian American women and men persists. Additionally, in this step both Self-Esteem Liking and Competence are significant predictors, with $\beta = -.445, p < .001$ and $\beta = -.167, p < .05$, respectively.

The final step of the regression adds academic-domain variables to the model. This step adds significantly to the prediction of Discrepancy, with $\Delta R^2 = .076, p < .01$. The final model accounted for $R^2 = .547, p < .001$, adjusted $R^2 = .547, p < .001$, meaning that 54.7% of the variance in Discrepancy is explained by the variables in the model. This is considered a “much larger than typical” effect (Leech et al., 2008). The final model had five significant predictors: Black men, Asian American women and men, Self-Esteem Liking, and Academic Self-Confidence. Both Liking and Academic Self-Confidence were negative predictors, meaning that as they decrease in value, Discrepancy increases.

Interestingly, further investigation between the bivariate correlations in Table 7 for African Americans and their values in Step 3 of this regression found that the Black
women and Black men dummy variables had suppressor effects for the prediction of maladaptive perfectionism. Pedhazur (1982, p. 104, as cited in Thompson, 2006) defined a suppressor variable as “a predictor variable that has a zero, or close to zero, correlation with the criterion but is correlated with one or more than one of the predictor variables.” Suppressor variables improve prediction of the criterion indirectly by making the other predictor variables more effective (Thompson, 2006). In effect, suppressor variables, through their relationships with other predictors, reduce error variance and improve the predictive ability of the other predictors. Despite its name, which may have negative connotations in other contexts, suppressor variables are “good things to have” (Thompson, 2006, p. 237). A change in sign between correlation and regression can also be an indicator of a suppressor variable.

The Black women and Black men variables had small, positive (e.g., $r = -.135, ns; r = -.100, ns$, respectively) correlations with APS-R D, but they had positive regression beta weights in the final model (Step 3) for maladaptive perfectionism. In Step 3, for Black women, $\beta = .114, ns$, and for Black men, $\beta = .183, p < .05$. Thus, having the Black women and Black men variable, through their correlations with other predictors, served to improve the prediction of maladaptive perfectionism even though they were not significant predictors in their own right. No additional suppressor effects were identified.

An analysis of the regression residuals, as suggested by Tabachnick and Fidell (2007), found that the requirements of linearity, normality, and homoscedasticity were met. Power was estimated for this regression using procedures outlined in Dunlap et al.
(2004). With $N = 153$, $\alpha = .05$, population (adjusted) $R = .708$, and 14 predictor variables, power was 1.000.

Support for Hypotheses. The results of the HMR for maladaptive perfectionism were partially supportive of Hypothesis 1a, but only for Asian Americans. Hypothesis 2a was supported in that lower levels of positive self-appraisals (e.g., self-esteem liking and academic self-confidence) were predictive of maladaptive perfectionism. Hypothesis 2b was not supported in that academic performance expectations did not predict maladaptive perfectionism. Hypothesis 3 was not supported in that shame was not a significant predictor of maladaptive perfectionism. Hypothesis 4 was supported in that adding academic domain self-appraisals added significantly to the prediction of maladaptive perfectionism. However, the only academic domain variable that was significant was academic self-confidence. Hypothesis 5 was not supported in that perceived parental academic pressure (as measured by single-items for parents’ GPA satisfaction and desired GPA) was not predictive of maladaptive perfectionism. Hypothesis 6 was not supported in that Honors-eligible GPA was not predictive of maladaptive perfectionism in the HMR model.

Hypothesis 6: Frequency Analysis

To complement the dimensional-based analyses given in Tables 8 and 9, a group-based analysis of the relationship between GPA and perfectionism classification was conducted. Participants were compared based on their perfectionism type (determined via their combined APS-R High Standards and Discrepancy scores) and whether or not
they had a high, Honors-eligible level of GPA (e.g., greater than or equal to 3.50). The results of these groupings are shown in Table 10.

Table 10

*Numbers and Proportions of Perfectionists by GPA*

<table>
<thead>
<tr>
<th>GPA</th>
<th>Below 3.50</th>
<th>3.50 or Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Perfectionists</td>
<td>Count: 60</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>%: (55.6)</td>
<td>(25.0)</td>
</tr>
<tr>
<td>Adaptive</td>
<td>Count: 26</td>
<td>17</td>
</tr>
<tr>
<td>Perfectionists</td>
<td>%: (24.1)</td>
<td>(38.6)</td>
</tr>
<tr>
<td>Maladaptive</td>
<td>Count: 22</td>
<td>16</td>
</tr>
<tr>
<td>Perfectionists</td>
<td>%: (20.4)</td>
<td>(36.4)</td>
</tr>
</tbody>
</table>

|                      | Count: 108 | 44             |
| Column Totals       | %: (100.0)  | (100.0)        |

*Note.* GPA = Grade Point Average.

A chi square analysis indicated that there were significant differences in perfectionism type as a function of GPA level, with $\chi^2(2, N = 152) = 11.791, p = .003$; Kendall’s $\tau = .252, p = .003$. There were more than twice as many non-perfectionists in the low GPA group than for the high GPA group. While each GPA grouping had approximately equal numbers, percentage-wise, of adaptive and maladaptive perfectionists, there were more of both types of perfectionists in the high GPA group. Examination of Table 10 reveals that the lower GPA group contained 67.5% women and 75.0% men. This trend switched for GPA’s of 3.50 or higher, with women making up
32.5% of the group and men contributing only 25.0% to the high GPA group numbers. The significance of these differences could not be statistically evaluated due to the small number of participants in this sample.

The chi square analysis supported Hypothesis 6 in that students with high GPA’s were more likely to be both adaptive and maladaptive perfectionists.

_Hypothesis 7_

The results of the regression analysis predicting academic trait procrastination are given in Table 11.
Table 11

Multiple Regression Results for Predicting Procrastination (API)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td>(Constant)</td>
<td>54.091</td>
<td>1.695</td>
<td></td>
</tr>
<tr>
<td>White Men</td>
<td>-1.808</td>
<td>2.612</td>
<td>-.066</td>
</tr>
<tr>
<td>Black Women</td>
<td>1.554</td>
<td>2.435</td>
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</tr>
<tr>
<td>Black Men</td>
<td>-2.822</td>
<td>2.553</td>
<td>-.106</td>
</tr>
<tr>
<td>Asian Women</td>
<td>1.534</td>
<td>2.966</td>
<td>.047</td>
</tr>
<tr>
<td>Asian Men</td>
<td>6.069</td>
<td>2.581</td>
<td>.224*</td>
</tr>
<tr>
<td>(Constant)</td>
<td>61.612</td>
<td>7.267</td>
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<tr>
<td>White Men</td>
<td>-2.358</td>
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<tr>
<td>Black Women</td>
<td>2.146</td>
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<td>.086</td>
</tr>
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<td>Black Men</td>
<td>-2.919</td>
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<td>.195</td>
</tr>
<tr>
<td>SE Liking</td>
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</tr>
<tr>
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<td>.225</td>
<td>.439</td>
<td>.051</td>
</tr>
<tr>
<td>Guilt Res.</td>
<td>-.129</td>
<td>.181</td>
<td>-.066</td>
</tr>
<tr>
<td>Shame Res.</td>
<td>-.041</td>
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<td>-.027</td>
</tr>
<tr>
<td>(Constant)</td>
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<tr>
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<td>Asian Women</td>
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<td>Asian Men</td>
<td>5.217</td>
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<td>SE Liking</td>
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<td>SE Comp.</td>
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<td>.418</td>
<td>.120</td>
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<tr>
<td>Guilt Res.</td>
<td>-.076</td>
<td>.168</td>
<td>-.039</td>
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<tr>
<td>Shame Res.</td>
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<td>.155</td>
<td>-.095</td>
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<tr>
<td>Academic Self-Conf.</td>
<td>-.956</td>
<td>.246</td>
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<td>Student GPA Sat.</td>
<td>-.219</td>
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<td>Student Max. GPA</td>
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</tbody>
</table>

Note: See Table 7 Note. Values of Adjusted R² are: .050 for Step 1, .076 for Step 2, and .215 for Step 3. *p < .05, **p < .01, ***p < .001.
The results in Table 11 for Step 1 show a mix of results for academic procrastination for the different racial/gender groups. For White and African Americans, men are less likely than females to procrastinate, although these differences are not significant. Asian American women and men are more likely than White females to procrastinate, with the difference for men (6.069 points) being significant at the $p < .05$ level.

Step 1 explains a significant portion of the variance in Procrastination (via the API measure), with $\Delta R^2 = .081$, $p < .05$, meaning that considering only race and gender explains 8.1% of the variation in Procrastination scores for this sample.

Step 2 added the cognitive and affective self-evaluation variables of Self-Esteem Liking and Competence, and the Guilt- and Shame-proneness residual scores. The addition of these variables to the model did not result in a significant increase in the amount of variance explained, with $\Delta R^2 = .049$, $p > .05$.

The final step of the regression added academic-domain variables to the model. This step added significantly to the prediction of Procrastination, with $\Delta R^2 = .156$, $p < .001$. The final model accounted for $R^2 = .286$, $p < .001$, adjusted $R^2 = .215$, $p < .001$, meaning that 21.5% of the variance in Procrastination is explained by the variables in the model. While smaller than the proportions of variance explained in the previous two analyses, this value nearly reaches the level (.25) considered as a large effect (Leech et al., 2008). The final model had only two significant predictors: Asian American men and Academic Self-Confidence. While being an Asian American male increased the
likelihood of being a procrastinator, Academic Self-Confidence was a strong negative predictor of procrastination, with $\beta = -.386, p < .001$, and accounting for the largest amount of unique variance of any predictor, $sr^2 = -.277, p < .001$.

An analysis of the regression residuals, as suggested by Tabachnick and Fidell (2007), found that the requirements of linearity, normality, and homoscedasticity were met. Power was estimated for this regression using procedures outlined in Dunlap et al. (2004). With $N = 154$, $\alpha = .05$, population (adjusted) $R = .464$, and 14 predictor variables, power was .992.

The results of the regression analysis provided little support for Hypothesis 7, in that only two of the eight predictors that were significant for either adaptive or maladaptive perfectionism significantly predicted procrastination.
Chapter 6

Discussion

Comparison of Sample Characteristics With Previous Research

Given the intentional diversity (in terms of race and gender) of this sample, it was of particular importance to compare the characteristics of the present sample against those used in previous studies on the measures used. Comparisons with previous research using the same instruments found that the samples were generally comparable. The current study’s sample was comparable to previous research on the following variables: age, GPA, self-esteem (including total, SE-liking, and SE-competence) scores, shame- and guilt-proneness (and their residuals), and academic self-confidence. This means that the differences for sample descriptor and predictor variables were generally less than Cohen’s $d = .20$ for the same variables from comparable studies. An exception was academic self-confidence. The present sample had a slightly higher (e.g., resulting in a value of $d = .26$) mean value for men compared with men in the Shrauger and Schohn (1995) study. It is important to note that, while the combined sample of this study had mean values comparable to previous research, significant differences by race and/or gender were observed, and will be discussed in the following paragraphs.

The results of this study, using the liking and competence components of self-esteem, replicate and extend the findings of previous research, specifically Twenge and Crocker (2002) in that the orders of self-esteem (measured with liking and competence) were similar across races to the differences measured previously with the full RSES.
Specifically, this study found that both self-esteem components were highest in African Americans, followed by White Americans, and then Asian Americans. However, the gender difference for self-esteem identified through a meta-analysis of studies with predominantly White samples (Major et al., 1999), where women had lower self-esteem than men, was not replicated in this study. This is likely explained by the findings of Twenge and Crocker’s (2002) meta-analysis, namely that minority males had lower self-esteem than minority females. When one considers that gender effects for the present sample were evaluated via $t$ tests that combined women and men across the three racial groups, the results seem congruent with previous research results.

Data could not be identified in the literature that addressed racial differences in shame-proneness as measured by the TOSCA; thus, the finding with the present sample that African Americans were significantly lower than both White Americans and Asian Americans in shame-proneness may be an important contribution to the literature in its own right.

It is likely that the consistent finding from previous research that women are significantly higher in shame-proneness than men (Tangney & Dearing, 2002) was not replicated in the current sample because of the significantly lower (compared to White and Asian Americans) shame-proneness of African Americans. However, the typical finding that women are higher in guilt-proneness was replicated in this study. Additional gender-specific findings that were replicated included: men were higher than women in academic self-confidence (albeit at the $p = .053$ level), and women reported having
higher GPA’s. Comparison data could not be identified for the single-item measure of the highest GPA students felt they could realistically obtain, where men scored significantly higher than women, although with a small \((d = -0.344)\) effect size. Thus, while men had a significantly lower GPA than women, it appears that their higher academic self-confidence lead them to believe that they were capable of attaining a higher GPA than women believed they could attain.

Examination of APS-R D scores in previous studies yielded interesting findings. Rice and Ashby (2007) reported a sample \(M = 39.8, SD = 15.22\), while Ashby et al. (2006) reported \(M = 43.79, SD = 13.01\). The present sample had \(M = 45.2, SD = 14.0\). The Rice and Ashby (2007) sample came from four studies at two medium-to-large southern U.S. public universities. Their combined sample was 65% White and 70% women. The Ashby et al. (2006) sample was from a mid-sized, mid-western public university and was 94% White and 81.4% women. Based on race and gender composition alone, it would be expected that the current sample’s scores would be closer to those of the Rice and Ashby (2007) sample, but they are, in fact, closer to those from Ashby et al. (2006). There are a number of possible explanations for these differences. It is possible that the differences are due to the universities where the studies took place, perhaps due to the academic competitiveness of the institutions. However this is speculative since no data is available to examine this possibility. Another possibility concerns the fact that the institutions are in different parts of the U.S. As discussed in the review of the literature, Twenge and Crocker (2002) found that the Black advantage for
self-esteem was larger in the southern U.S. than other parts of the country. Thus, it is plausible that there could be differences in perfectionism scores also, since aspects of self-esteem (liking and competence) were found to be significant predictors of maladaptive and adaptive perfectionism (respectively). The studies by Ashby et al. (2006) and Rice and Ashby (2007) did not specify when (e.g. what year(s)) their data were collected. While no data is known to demonstrate cohort effects in perfectionism, this potential influence cannot be ruled out. Whatever the sources of difference, the present sample’s mean level of maladaptive perfectionism, as measured by the APS-R D scale, is higher than previously noted; with a $d = .30$ higher than the score reported in Ashby et al. (2006). This level of difference is between “small,” $d = .20$, and “medium,” $d = .50$, per Cohen (1988).

Another difference noted with previous research concerned procrastination. Moon and Illingworth (2005) reported a scaled mean of $M = 2.58, SD = .61$ for the API. This would result in an overall mean for the API of 49.02. Moon and Illingworth (2005) stated that they collected this data after the second of five tests given during the spring semester and that the sample was from a large, mid-western university, and consisted of 80% White and 64% women participants. A similar value for the API, $M = 49.59, SD = 10.84$ was found by Owens et al. (2008), although they did not provide info with respect to racial/ethnic composition or the time of semester the data were collected. Thus, it appears that for predominantly female samples measured early in the semester, that API scores of approximately 49 are typical. For the present sample, where data were
collected during the final week of the Fall 2007 academic semester, API scores had $M = 54.8$, $SD = 10.0$. Thus, it appears that the present sample consisted of students who were higher, on average, than typical in terms of academic trait procrastination as measured by the API, with an medium effect size of approximately $d = .50$.

Support for Hypotheses

Five of the seven hypotheses for this study received at least partial support via data analyses. Prior to reviewing the results for the hypotheses, a general overview of the results will be provided. In general, support was found to suggest that the consideration of race and gender are important to the study of perfectionism and procrastination. When self-esteem is conceived and measured as two distinct, but related dimensions, differential predictive relationships emerged between the adaptive and maladaptive forms of perfectionism. While global cognitive-affective self-appraisal variables had differential predictive relationships with perfectionism, academic self-confidence was a robust predictor across perfectionism and procrastination. Contrary to expectations, shame-proneness was not a significant predictor for maladaptive perfectionism. Guilt-proneness, somewhat surprisingly, emerged as a positive predictor of adaptive perfectionism. Perceived parental pressure, as measured by single-items related to parents’ desired GPA for the student and their perceived satisfaction with the student’s GPA, were not predictive of perfectionism. Being a highly-performing student, in terms of self-reported GPA, was predictive for adaptive perfectionism but not maladaptive perfectionism in the multiple regression framework. Lastly, academic trait
procrastination again proved to be a complex phenomenon, being significantly predicted by only two study variables.

**Hypothesis 1: Race and Gender**

Hypothesis 1, that predicted outcomes for race, gender, and perfectionism, received partial support. While African Americans were significantly higher than Asian Americans (and White Americans, although *ns*) in adaptive perfectionism at the group-mean level (per the MANOVA results), being African American, relative to the comparison group of White women, did not significantly predict adaptive perfectionism in the multiple regression analysis. The combined direct effects of race and gender were not significant predictors for adaptive perfectionism. Competence-based self-esteem, guilt-proneness, academic self-confidence and high (3.50 and above) GPA were the significant predictors of adaptive perfectionism. African Americans were lower in MP than White Americans in the MANOVA, but the difference was not significant. African Americans were significantly lower than Asian Americans in MP in the MANOVA analysis.

Asian Americans were found to be significantly higher than both White and African Americans in maladaptive perfectionism in the MANOVA analysis and being an Asian American woman or man was found to significantly predict maladaptive perfectionism in the regression analysis as well. While being an African American man was also a significant predictor of maladaptive perfectionism, comparison of the correlation and regression results indicate that this was a statistical suppressor effect.
Other significant, and negative, predictors of maladaptive perfectionism included self-liking based self-esteem and academic self-confidence.

The prediction from Hypothesis 1 that being a woman would be predictive of adaptive perfectionism was supported at the group level but not in the dimensional HMR analysis. When women and men were compared in the t tests, women were higher in AP (as measured by the APS-R HS scale), although the effect size was small. However, no race and gender combinations were predictive for adaptive perfectionism in the HMR. Being an Asian American woman (as well as being an Asian American man) was predictive of maladaptive perfectionism in the regression analysis of Table 9. Additionally, in this sample, there was no significant difference in maladaptive perfectionism (measured with the APS-R D scale) between women and men, per the results of a t test.

Chi square analysis, comparing the frequencies of the three types of perfectionists by race and gender found a significant difference for race but not gender. It was observed that there was a higher frequency of Asian Americans in the maladaptive perfectionist category and a higher frequency of African Americans in the adaptive perfectionist group.

In the present study, across race and gender, 45.8% of the students were classified as non-perfectionists, 28.4% as adaptive perfectionists, and 25.8% maladaptive perfectionists. By comparison, for a large, yet still predominantly White sample, Rice and Ashby (2007), using the same measure and classification system, found: 37.0% non-
perfectionists, 34.4% adaptive perfectionists, and 28.6% maladaptive perfectionists. While the numbers for the present study are similar to these, the present sample had a higher frequency of non-perfectionists. This seems consistent with the fact that the students of the present sample volunteered for research that would earn them course credit during the last week of the Fall academic semester. On average, the students in the present study were more likely, compared with other studies, to be slightly lower in perfectionism and slightly higher in procrastination.

Hypotheses 2, 3, 4, 5, and 6: Predicting Adaptive and Maladaptive Perfectionism

Hypothesis 2 stated that the aspects suggested by the TCMP (Alden et al., 2002) would significantly predict both adaptive and maladaptive perfectionism. Partial support was received for the self-appraisal component of the TCMP, but there was no support for the second component, performance expectations, as measured by student’s estimates of their maximum realistically obtainable GPA or their perceived parents’ desired GPA. Components of the global appraisal (or “evaluation”) of the self via self-esteem liking and competence differentially predicted maladaptive (MP) and adaptive perfectionism (AP) respectively. Higher levels of self-competence-based esteem predicted AP while decreasing levels of self-liking based esteem predicted increasing MP. Guilt-proneness was a significant positive predictor of AP, but shame-proneness predicted neither AP nor MP. This was contrary to the prediction of Hypothesis 3, that shame-proneness would predict MP.
Academic-domain self and perceived parental appraisals added significantly as a predictor set (in Step 2 of the HMR’s) to the prediction of AP and MP, but the only variable that was predictive for both types of perfectionism was academic self-confidence. Academic self-confidence was a positive predictor of AP and a negative predictor of MP. Thus, Hypothesis 4 was supported, but only robustly supported by the academic self-confidence measure. Students’ perceptions of parental pressure, measured by single-items concerning parents’ desired GPA for the student and their perceived satisfaction with the student’s GPA, were not significant predictors for either AP or MP. Thus, Hypothesis 5 was not supported.

Past high academic performance, as measured by Honor’s Eligible GPA (e.g., 3.50 or higher on a 4.00 scale), was predictive of adaptive, but not maladaptive perfectionism. This was in contrast to a chi square analysis, based only upon frequencies of participants based on their GPA in the three perfectionism types (AP, MP, NonP). When additional variables were considered together in a regression model, GPA status was only predictive of AP. Thus, Hypothesis 6 received only partial support in that GPA was not also a predictor of MP, as it was for elements of both AP and MP (measured with the MPS-F) in Parker and Adkins (1995).

*Hypothesis 7: Predicting Academic Trait Procrastination*

Hypothesis 7 stated that the significant predictors of perfectionism would also significantly predict procrastination. This hypothesis received minimal support in that only the Asian American men dummy variable and academic self-confidence were
significant predictors of procrastination. Asian American men were more likely to have significantly higher procrastination scores. Academic self-confidence was a negative predictor of procrastination, indicating that students with less academic self-confidence were more likely to have higher levels of academic trait procrastination.

**Implications of Findings for Theory and Research**

**Race and Perfectionism.** The marked differences in self-esteem, shame, and perfectionism between African Americans, Asian Americans and White students appear to be important findings, worthy of further theoretical and empirical investigation. While people of color in the United States are all subjected to varying degrees of racism, prejudice, and discrimination, some (e.g., Mio & Awakuni, 2000, as cited in Mio et al., 2007) have suggested that Asian Americans are less likely than other minority groups to be the targets of racism. A partial explanation for this difference may be the stereotype of Asian Americans as the “model minority” (Ying et al., 2001) because of their academic and professional accomplishments.

It is possible to speculate that cultural values unique to African Americans and Asian Americans help explain the differing results observed for these groups with respect to perfectionism. While there is some overlap between the cultural values of these two groups, there are also important differences. Belgrave and Allison (2006) have given core Africentric values as: spirituality, collectivism, relaxed time orientation, preference for oral communication, sensitivity to affect and emotional cues, verve and rhythm, and balance and harmony with nature. Additional aspects of a healthy Africentric psychology
include: “being sincere and who you are meant to be” (p. 40), and “self-love, being satisfied with your God-created self, being happy with what you do, being adaptable, educated, goal-oriented, striving for your fullest potential, and having inner peace” (p. 280). Additionally, Utsey, Giesbrecht, Hook, and Stanard (2008) found that African Americans tend to use racial pride, family adaptability, and optimism to cope with race-related stress.

When one examines the aforementioned Africentric values, having high standards for oneself, as in adaptive perfectionism, appears congruent. Additionally, the pattern of Africentric values seem likely to create a belief system and way of being that minimizes dissatisfaction with what one has achieved (e.g., the discrepancy dimension of maladaptive perfectionism). However, as this study and others have found, there are African Americans whose scores lead to their classification as maladaptive perfectionists. Support for the link between cultural values (as measured by racial identity) and perfectionism comes from the Elion (2007) study that found significant differences between adaptive and maladaptive perfectionists based on differences in racial identity for African American college students. Elion (2007) found that students with higher levels of racial self-hatred (as measured by the Cross Racial Identity Scale, CRIS; Vandiver et al., 2000) were more likely to be maladaptive perfectionists, while adaptive perfectionists were more likely to have internalized a multiculturalist perspective (the highest stage of development in the CRIS system).
Key differences noted in the literature for Asian American values relative to those presented for African Americans include: increased levels of parental pressure (and harshness), high behavioral self-control, restricted emotional expression, primacy of the family and protecting its honor, humility, fatalism, and more structured family roles and relationships (Kawamura et al., 2002; Kim & Wong, 2002, as cited in Nguyen & Huang, 2007; Tewari et al., 2003). An additional consideration is that Asian American parents tend to use shame and guilt to control the behavior of their children (Sue, 1998). Asian American parents also stress high regard for learning, with an emphasis on academic achievement and a professional career they believe will lead to economic prosperity for their children (Tewari et al., 2003).

A first glance at the aforementioned Asian American cultural values might lead one to expect that Asian Americans would have both the highest scores on adaptive and maladaptive perfectionism (as measured by the APS-R HS and D scales, respectively). This would be based on high parental standards for education combined with rigidity, harshness, and a shame- and guilt-based control style. While this study found that Asian Americans had considerably higher scores on maladaptive perfectionism, they had the lowest scores on adaptive perfectionism (compared with African American and White students). One possibility, that remains to be explored empirically, is that Asian Americans’ sense of humility and not wanting to stand out leads them to under-report their levels of personal standards. Another possibility is that Asian American students may not want to be in college, or be in their specific academic major intrinsically and that
they are doing what their parents want them to do. This could potentially explain lower HS scores. It appears that regardless of whether their performance standards are their own or come from their parents (or a combination of the two), Asian American students are decidedly discontent with their achievements (via their high discrepancy scores). Again, this could represent their true self-appraisal or it could be explained by their giving the answers that they feel they should give. While perfectionism measures have been found to have very low levels of association with social desirability, these studies have had samples that are very predominantly White and female. Thus, the aforementioned questions remain open for further investigation.

Perfectionism research has found that while both African Americans and Asian Americans score higher than White students on the MPS-F parental expectation scale, Asian Americans have consistently scored the highest of the three racial groups on the parental criticism scale. Additional support for cultural/familial explanations for the differences in perfectionism levels comes from Yoon and Lau (2008) who demonstrated the importance of group interdependence on the relationship between perfectionism and depressive symptoms in Asian American college students.

Issues of immigration, acculturation, and clashing cultural values are especially salient for Asian American students since “Of all racial groups in the United States, Asian American and Pacific Islander (AAPI) families have the highest percentage of immigrants: 69% of Asians and 20% of Pacific Islanders are foreign-born, as compared to 10% of the overall population. The majority of AAPI immigrants living in the United
States in the year 2000 entered the country in the 1980s and 1990s” (Yee, DeBaryshe, Yuen, Kim, & McCubbin, 2007, p. 73). Important differences exist relative to values and well-being for Asian Americans based on their generational status, immigrant status, length of time in the U.S., and English-language proficiency (Tewari, Inman, & Sandhu, 2003; Wei et al., 2007; Yoo & Lee, 2008)

The findings of the present study, combined with the theoretical and empirical literature reviewed, suggests that models of perfectionism should explicitly incorporate contextual factors that may have strong influences on individuals and groups. The context of the culture or society is important, given differences across cultures in values, socialization, gender roles, and expectations. Individuals are immersed in a contextual setting such that their individual differences interact with their setting, and these interactions vary with time. To borrow from Ying et al. (2001), race (and gender) serve as proxies for the (past and present) effects of culture on individuals. Aside from race and the many relevant psychological components associated with race, other contextual factors that may be important for studies conducted in the United States with racial and ethnic minorities include things such as age, region of the United States, country of origin, time living in the United States, generation status, and language proficiency. Additionally, as noted in this study and previous research, important differences have been identified across gender for Asian American men and women.

*Dual-Process Models of Perfectionism.* The findings of this study are supportive of a dual conception of perfectionism, whereby it has both adaptive (or healthy) and
maladaptive (or unhealthy) aspects (Stoeber & Otto, 2006). This study’s results are consistent with theory and previous findings that suggest an underlying cause or motivation of maladaptive perfectionism is a feeling of inferiority relative to others. Stoeber and Otto (2006) and other researchers have referred to the underlying (negative) causes of perfectionism as “perfectionistic concerns.” The positive, or adaptive elements have been referred to as “perfectionistic strivings.” These dimensions have been elaborated on by Alden et al. (2002) in their conceptualization of perfectionism.

Two-Component Model of Perfectionism. The current study used elements suggested by the Alden et al. (2002) Two-Component Model of Perfectionism. The results of the HMR analyses found that self-appraisals differentially predicted perfectionism. Positive self-appraisals, as measured by self-esteem competence and academic self-confidence, as well as having a history of high academic performance (as measured by self-report GPA) predicted adaptive perfectionism. A somewhat surprising finding was that the self-conscious emotion of guilt-proneness predicted adaptive perfectionism. Closer inspection of the TOSCA-3S test items found that guilt-proneness was associated with an active, approaching, relationship-repair style, consistent with the analysis of Luyten, Fontaine, and Corveleyn (2002).

While lower levels of self-liking and academic self-confidence were predictive of maladaptive perfectionism, neither self-conscious emotions (shame- and guilt-proneness) nor academic performance or expectations were predictive of maladaptive perfectionism.
Taken together, the aforementioned HMR results suggest that the maladaptive self-appraisal component of the TCMP does differentially predict between adaptive and maladaptive perfectionism, but only for certain variables. In the present study, these variables were self-esteem components and academic self-confidence. However, performance expectations, as measured by students' perceptions of the maximum GPA they could attain as well as their perceptions of their parents' desired GPA, did not add to the prediction of perfectionism. While this finding does not support the second component of the TCMP, it is realized that these single item measures were not strong psychometrically and may have also suffered from a restricted range effect. Additionally, it is possible that some students find other aspects of their lives to be more important than academics. While this could be explored to some extent with measures such as the CSWS (Crocker et al., 2003), there would still be a possible mismatch concerning measurements; e.g. would there need to be a separate domain-specific measure of perfectionism for each area that is most important to a student? This aspect of the TCMP along with questions of domain-specificity and measurement remain open questions for future investigators.

**Shame, Guilt, and Perfectionism.** Shame-proneness was not a significant predictor of perfectionism in this study. Competence, guilt-proneness, and academic self-confidence were significant predictors of adaptive perfectionism. At first glance, the variable that does not make intuitive sense is guilt-proneness. However, if one closely examines the responses on the TOSCA-3S representing guilt-proneness, it is seen that
they indicate an active style of coping with mistakes, with responses such as “making it up to your friend,” “I need to fix it,” “I should have studied harder,” “you’ll be more careful next time,” and several instances of apologizing. Thus, guilt-prone individuals, as measured by the TOSCA, have an approach style of coping. On the other hand, the shame-proneness items relate to escape, avoidance, hiding, and being inadequate and incompetent. Once this is understood, the combination of feeling globally competent (measured with the RSES), along with feeling confident about your academic abilities, and an active, approach-repair style indicated by guilt-proneness appears congruent.

It is also possible that the results are related to the instrument used to measure shame. This is based on the fact that the Ashby et al. (2006) study achieved significant results for internalized shame’s relationship to perfectionism. The Ashby et al. (2006) study measured shame with the Embarrassed and Exposed scale of the Internalized Shame Scale (ISS; Cook, 1988). Tangney and Dearing (2002) have criticized the full ISS as having such a high correlation with self-esteem that it does not have discriminant validity. While Tangney and Dearing (2002) argued that shame-proneness is conceptually distinct from self-esteem, the results of this study call this into question. It is possible, based on the significant prediction offered by the components of self-esteem, that it is self-esteem and not shame that is predominant in predicting perfectionism. However, future research will need to further explore these issues to help resolve whether the difference is due to the conceptual overlap of shame with self-esteem or if the difference is one of instrumentation alone.
Another potential theoretical explanation for the results of this study are offered by Sorotzkin’s (1985). Based on self-psychology theory and his clinical experience, Sorotzkin (1985) postulated that there are two types of perfectionism, “neurotic” perfectionism and “narcissistic” perfectionism, and that they are fundamentally different in terms of their underlying causal structures (both of which are based on early life object relations). Sorotzkin (1985) stated that neurotic perfectionism is more commonplace, less severe, and more amenable to intervention than narcissistic perfectionism. In Sorotzkin’s model, a harsh internalized super ego leads to neurotic perfectionism. Guilt over not achieving one’s high standards then leads to lowered self-esteem.

Conversely, Sorotzkin stipulates that narcissistic traumas experienced in infancy cause an individual to have little-to-no sense of their self as a coherent, separate person. This leads to low self-esteem. These individuals then adapt perfectionism as a way to avoid shame and humiliation. Within the context of Sorotzkin’s (1985) theoretical framework, the findings of this study may be due to a higher prevalence of neurotic perfectionists in the non-clinical sample utilized.

Domain Specificity. Adding academic domain variables added to the predictive ability for both adaptive and maladaptive perfectionism. However, only two variables from this block were significant, and they were differentially related to adaptive and maladaptive perfectionism. Honors eligibility, as measured by GPA of 3.5 or higher, predicted adaptive perfectionism. However, given that this was a correlational and cross-sectional study design, it is possible that the reverse relationship is true, that being an
adaptive perfectionist results (all other things being equal) to achieving high academic performance. The question mentioned earlier, concerning measurement, applies here as well. In order for domain-specific predictors to be significant, does there need to be a domain-specific criterion? In this case, that would mean having an academic-specific measure for perfectionism. Students’ academic self-confidence, which can be viewed as a domain-specific self-appraisal, did predict perfectionism in expected ways.

*Parental Pressure.* Given the importance of socially prescribed perfectionism (Flett & Hewitt, 2002), two single-items were included in an attempt to assess the potential impact of parental pressure on predicting perfectionism. These items asked students for their perceptions as to their parents’ satisfaction with the students’ current GPA and what they felt their parents wanted their GPA to be. A number of possibilities exist to explain why these items were not significant predictors. There were a large number of global and academic domain predictors included in the regression analyses. So, the impact of these single items may have been overshadowed by more salient predictors. It is also possible that parents expectations and criticisms toward students are not specific to the point of explicitly stating desired GPA levels. It is also possible, as mentioned above, that domains other than academics are more salient to some students, and thus their parents’ academic perceptions may not carry much weight with respect to perfectionism.

*Honors Students and Perfectionism.* Based solely on frequencies, students with GPA’s of 3.5 or higher were more likely to be both adaptive and maladaptive
perfectionists compared with students with lower GPA’s. However, when GPA level was included with other global and academic domain self-appraisal variables in the regression analyses, GPA level was only significantly associated with adaptive perfectionism. As mentioned previously, this could mean that high academic performance is an effect rather than a cause of adaptive perfectionism. Additionally, it is important to note that having a high GPA did not reduced the likelihood that students would also be maladaptive perfectionists or less likely to engage in academic procrastination. The caveat for the latter observation is that, on average, the current sample was more likely than is typical to engage in procrastination. What may be most important to note is that high performing students have a high (36.4%) prevalence as maladaptive perfectionists. Additionally, given socialization and peer norm concerns, these students may not display or discuss the distress that often comes with a maladaptive perfectionist personality style. These students may also be less likely to seek support or professional help in dealing with their stressors.

Perfectionism and Procrastination. As other researchers have noted, procrastination is a complex construct that is difficult to predict (Ferrari, 2004). That was the case in this study as well. Only Asian American male status and academic self-confidence were significant predictors of academic trait procrastination. However, there are two pieces of information that this study offers that may have merit for future researchers. Data was collected for this study during the final week of the Fall 2007 academic semester. A comparison of the proportion of men in the study sample to that
available from the SONA research pool found that men were over-represented in this late semester sample, and that the difference was largest for African American men (13.6% vs. 6.6% for Asian American men and 2.6% for White men). While previous research has found a trend for men to be higher in trait procrastination (Steel, 2007), no comparison data could be found discussing racial differences in procrastination.

Furthermore, Asian American men in this sample were significant predictors for both maladaptive perfectionism and procrastination. Asian American men in this study are, in this sense, outliers from the results for the other race/gender combinations studied. Asian American men have also had results noticeably different from Whites and Asian American women in other studies (e.g., Kawamura et al., 2002). Given these findings, additional qualitative and quantitative studies of Asian American men would be helpful in the on-going effort to understand what factors underlie the differences observed.

The finding that academic self-confidence is a significant predictor for both types of perfectionism and procrastination suggests that it is a very important consideration for college students. The results of this study indicate that interventions that help students increase their academic self-confidence hold the potential to raise adaptive perfectionism, and lower maladaptive perfectionism and procrastination. Given the many negative personal and interpersonal associations with maladaptive perfectionism, interventions that help lower this trait in students are likely to have far-reaching positive impacts on their personal and academic lives.
The implications of this research for helping students who are adversely impacted by maladaptive perfectionism can be grouped into two areas: education and awareness and structural considerations relative to types of institutional programming and the philosophical approaches they incorporate.

**Education and Increasing Awareness.** Based on the results of this study and the review of the literature, the following recommendations are made to help increase the awareness of all university personnel who regularly work with students. University personnel should be educated (via in-service training, workshops, retreats, etc.) about maladaptive perfectionism. This should include the differences between adaptive and maladaptive perfectionism, the high prevalence of maladaptive perfectionism, and the serious problems associated with maladaptive perfectionism. These problems include, but are not necessarily limited to: depression, anxiety (especially social anxiety), insomnia, alcohol and other drug abuse, eating disorders, suicidal ideation, and interpersonal and relationship difficulties.

For a wide variety of reasons, students may attempt to hide their feelings of distress and not ask for help. Thus it is up to the professionals working with students to pay close attention not only to what their students say but also what they do. For instance, if a student appears to be overly invested in their school work and/or have no close friends or interests aside from academics, these could indicate a propensity toward maladaptive perfectionism or other unhealthy attitudes and behaviors. Another
possibility that might not occur to most, is that students who miss scheduled appointments may do so for reasons related to perfectionism. Maladaptive perfectionists and people who are socially anxious share the fear of negative evaluation from others that leads them to be inclined to avoid situations where they perceive they will be judged. Thus, rather than “laziness” or other imagined character flaws, students may miss appointments because of the distress they feel in anticipation of such meetings.

The more students perceive that they are cared about, the more they will be likely to approach university personnel to talk about their difficulties. As appropriate to differing professional roles and responsibilities, university personnel should strive to form close relationships with students, marked by warmth, acceptance, and respect. One way to facilitate this is for professionals to be open and disclose difficulties they had when they were students. To the extent that students feel connected with university personnel, they will be more likely to open up and be honest about their difficulties. Once students “open the door,” university personnel should be ready with referral information to campus resources. These resources might include culturally-appropriate mentors, spiritual leaders, or the counseling center. Having pamphlets or business cards at the ready for these resources can help facilitate referrals. If university personnel are concerned about a student, they should arrange to talk with them in private, both to protect the student’s right of confidentiality and also to allow a discussion in a setting where the student will not worry about being heard by her or his peers. Impression
management, or appearing “cool” and capable to their peers is extremely important for young adults.

The education processes to increase university-wide awareness should explicitly make the points that all racial groups and both women and men are vulnerable to maladaptive perfectionism. Specifically of note, the results of this study found that Honors-level GPA does not protect a student from maladaptive perfectionism or academic procrastination.

Personnel should be made aware of the “model minority” stereotype of Asian Americans. While they may not outwardly demonstrate their distress or ask for help because of their cultural norms, Asian Americans were found to be highest in maladaptive perfectionism and lowest in adaptive, or healthy perfectionism relative to Black and White students. Yeh (2002) warns that, given the strength of the model minority stereotype, institutions and individuals may not realize that Asian American students can be educationally at-risk and that they may need additional programs to help them succeed in college. This may be especially so for international students or recent immigrants. While these students may have sufficient English language skills to be enrolled at the university and pass their classes, their level of English proficiency may be an important limiting factor in terms of asking questions, visiting faculty during office hours, accessing university services, socializing, and integrating into campus life (Suzuki, 2002). Ying et al. (2001) suggest that non-academic factors be considered when assessing students’ competence. They suggest a holistic view of students as people, not
just as academic performers. Particularly in the case of Asian Americans, Ying et al. (2001) found that students with lower levels of cross-racial engagement, while performing well academically, suffered with respect to experiencing the world as a manageable, understandable, and meaningful place.

Parents and others who advise students should be taught (or reminded) how to give praise and criticism (e.g., academic feedback) in ways that are more likely to contribute to the mental and emotional health and well-being of students. For instance, Marano (2008) recommends that praise be given in ways that do not reinforce the need to be perfect. One example is to reward the process or effort made by students (at least verbally and emotionally, if not in actual grading). This is in comparison to praising the student’s talent or the end product. In other words, praise and criticism should be specific and not directed at global attributes of the student. One theory of the cause of maladaptive perfectionism is that young people internalize harsh, critical voices of authority figures. As Steingass and Sykes (2006) point out, it is important for university personnel such as academic advisors to not be harsh or judgmental when working with students, especially those with academic difficulties.

**Structural Considerations.** Programming that provides students with opportunities to form relationships with other members of the university community, be they peers, faculty, or staff, should be promoted. These relationships offer the opportunity to model positive behaviors as well as support and encourage students. Particularly with maladaptive perfectionists, modeling and encouraging a balanced way
of looking at life holistically, where one’s self-worth does not depend solely on high academic performance, could be very helpful.

Within all contexts, university personnel should attempt to help students increase their sense of academic self-confidence. However, it is important that gains in self-confidence be commiserate with gains in actual knowledge, skills, and abilities, rather than just a sense of “feeling good” about oneself in the academic domain.

Consistent with self-efficacy theory, those instructing, advising, and mentoring students should attempt to structure experiences, activities, and assignments in ways that will provide opportunities for students to have incremental mastery experiences. As students experience small, incremental successes, their self-confidence (and feelings of competence) will grow. This will set up an upward spiral such that students become more willing to take risks and their increases in competence will likely lead to increased self-liking. It should be kept in mind, however, to not set perfection or unrealistically high standards as outcome goals. Rather, students should be helped to expect set backs as part of the learning process and to develop the ability to take these in stride.

Many programs currently in place at universities, such as those offered by the University College at VCU for assisting freshmen in their transition to college, appear very congruent with the findings of this study. Specifically, programming that helps students develop their academic study skills and helps them to identify a major that is a good fit should assist in increasing students’ academic self-confidence and provide them with a sense of optimism and direction about their future and contribute to their academic
motivation and success (Tracey & Robbins, 2006). Beyond the content of such programs, lie the relationships with instructors and advisors. These are very important to helping students feel cared about and giving them opportunities to discuss their problems and receive assistance. Other programs, such as supplemental instruction, serve similar purposes and functions. Learning communities and activities in residence halls can also increase students’ sense of belonging and help form social support networks that can assist them academically and personally. Additionally, such programs offer the opportunity for cross-racial engagements, which should be of particular value to Asian American students. While the literature supports the value of cross-racial encounters for student growth and well-being, the possibility exists that, depending on the family background of students, being exposed to U.S. individualistic values could create stress and conflict for students whose parents still have more collectivistic values.

While there are many programs in place for freshmen and students that live on campus, thought should be given to ways to provide opportunities for on-campus relationships for students beyond the freshman year and for students that live off-campus. One possibility is to provide all students, not just freshmen, with a dedicated academic advisor in their major. However, in order for this to succeed, institutions would have to make allowances for faculty in terms of their time and service responsibilities. Institutional support would be needed to create a structure where academic advising and other non-classroom interactions with students carried weighting similar to their teaching evaluations with respect to promotions and tenure.
Continued and dedicated efforts need to be made to help culturally diverse students. One important area of intervention is to provide informal, non-graded opportunities for students to improve their English language proficiency. This will help students academically and socially by enabling them to more fully participate. This is especially important for students who, either due to cultural values or personal proclivities, have very high standards for themselves, including language, and for students who are easily embarrassed or ashamed if they do not meet their own high language proficiency standards.

Universities should continue to maximize their efforts to diversify their workforce, particularly in areas with intense student interaction, such as counselors. Suzuki (2002) relates his experience that found Asian American students were not using the campus counseling center until an Asian American clinician was hired. After this, the demand for services rose such that the Asian American counselor had to train her colleagues on culture-specific issues so that they could serve the greatly increased number of Asian American student clients. Aside from this anecdotal support, a meta-analytical review of 76 studies conducted by Griner and Smith (2006) found mental health interventions specifically targeting cultural groups, and provided in the client’s native language, were two-to-four times more effect than treatment as usual.

Limitations of the Present Study

This sample was smaller than desired, particularly with respect to Asian American women. It was desired to have equal numbers for each race and gender combination to
minimize proportion effects on regression partial coefficients. Additionally, given the somewhat exploratory nature of this research, combined with relatively low sample size, Asian Americans were considered as a single, unified group. Future researchers should consider within group differences for the many Asian American sub-groups and assess for the wide range of factors relative to Asian American outcomes mentioned previously.

Additionally, the majority of the sample were first-semester freshmen. Given the often rapid developmental changes experienced by young adults during the transition to college, the generalizability to all undergraduates cannot be assured. Another consideration with the current sample is that the students were, on average, moderately (in terms of API score difference effect size) more likely to procrastinate than has been typically reported in other studies with undergraduates using the same measure. Data for this study were collected during a time of the semester that is thought to be stressful, namely the last week of class. Unfortunately, a measure for perceived stress level was not included. This would have potentially allowed for a comparison of this samples’ mean stress level against those reported in other studies with undergraduates.

This study used the APS-R to measure perfectionism. Given the large number of previous studies that have used the MPS-F to measure perfectionism, in hindsight it would have been good to also have data from the MPS-F for comparison purposes.

Given that this study was cross-sectional and correlational in nature, causation cannot be assured. It is possible that all of the constructs of this study are caused by another unmeasured variable or set of variables.
This study used single-item measures for student’s GPA-related academic goals and satisfaction as well as their perceptions of these values for their parents. Future researchers would be well served to identify or create instruments with better reliability and validity than single-items can provide to assess these constructs. This study used self-report measures that can have bias in terms of external validity and social desirability. While the constructs of this study have not been found in previous studies to be strongly impacted by social desirability, at least with majority White samples, the influence of students wanting to “please” the experimenter (e.g., demand bias) by answering in the ways they think they should, cannot be ruled out. Other studies have dealt with part of the above by obtaining student’s actual GPA from the school registrar’s office vice using self-report.

While GPA level was used as a proxy to represent Honors students, the results may still be applicable. Wintre and Bowers (2007) found, in a study of a large Canadian undergraduate sample, that high school GPA correlates significantly with the GPA at the end of the first year of college, GPA at graduation, and persistence to graduation ($r$’s = .48, .45, .21, $p$’s < .01, respectively). However, future research using a sample of actual Honors students would add to the perfectionism literature.

There were two additional instrumentation concerns. This study used the Rosenberg (1965) self-esteem scale for the liking and competence components. While other researchers have also done this, it should be noted that a measure specifically designed to measure these two aspects of self-esteem is available (Tafarodi & Swann,
The measure used in this study for shame and guilt, the TOSCA-3S, did not perform as expected. While a number of possible explanations were offered for this finding, it is possible that issues specific to the TOSCA-3S were contributing factors. A number of other instruments for measuring shame and guilt are available. While most of these are identified and reviewed in Tangney and Dearing (2002), a new instrument, the Compass of Shame Scale (CoSS; Elison, Lennon, & Pulos, 2006) is also available. The CoSS was designed to measure four strategies theorized (by Nathanson, 1992) to be commonly used for coping with shame (Elison et al., 2006).

Directions and Suggestions for Future Research

Researchers studying perfectionism and/or procrastination are encouraged to include race and gender in their study designs, sample recruiting, and analyses in a more dedicated way. Additionally, no publications could be identified addressing perfectionism for Latino college students nor any other racial/ethnic groups other than Asian Americans, African Americans, and European Americans. Given the increasing Latino population in the United States, it seems particularly important to begin examining the constructs of this study with this population.

It was noted that a wide range of GPA’s have been reported across perfectionism studies. One possibility for this, and differences in the research findings, could relate to characteristics of the institutions. Aside from type and size of institution, and region of the country where the institution is located, issues related to the academic competitiveness of the college or university could be quite salient. Intuitively, one would
expect that institutions with higher academic standards would move inherently in the
direction of increased perfectionism, in terms of the students enrolled, peer norms and
social comparison aspects, and expectations and demands of faculty. While there is
anecdotal support for this idea (Landphair, 2007), no empirical data is known to exist that
speaks to this issue. Researchers should consider these elements and provide information
about the institution where the data was collected. Relevant information might include
number of applications versus number of students enrolled, and the average high school
GPA and SAT (or ACT) scores for incoming freshmen. Common metrics such as these
might enable researchers to compare results across institutions. Another idea would be
for researchers from different types of institutions to collaborate and consider
institutional differences as variables in their analyses.

Additionally, researchers are encouraged to report when they collected their data.
Year of collection is of interest from a cohort effect, but perhaps more importantly,
relative to stress, is the time of the semester when data were collected.

Diagnostic specificity for the perfectionism construct remains to be established.
Toward this end, academic, career, and counseling providers are encouraged to add
perfectionism measures to their intake, assessment, and outcome packages. The APS-R,
without the Order scale, consists of only 19 items. The MPS-F without the Organization
scale is 29 items long. If only the PS, CM, and DA scales of the MPS-F are used, only 20
items are required. Including perfectionism items in clinical and applied settings would
allow investigations about associations and specific links between perfectionism and
emotional/psychological/relational problems. It would also be of great interest to include such measures before and after academic and career counseling and courses, to examine the possible links between increased academic skills and/or career goals and potential changes in perfectionism that could result.

Lastly, review of the literature on perfectionism found that very few intervention/treatment studies have been published. Therefore, it is hoped that scientists and practitioners will move in the direction of designing, implementing, evaluating, and reporting on interventions designed to help students dealing with the adverse effects of maladaptive perfectionism and potentially to help facilitate the development of positive, healthy, adaptive perfectionism.
References


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Appendix A

Study Measures
Demographics and Single-Item Questions

What is the date that you are completing this questionnaire? _____________

1. Your Sex (circle one): Male  Female

2. Your Age:_______

3. What is your Ethnicity/Race? (circle one)
   a) African-American/Black
   b) European-American/Caucasian/White
   c) Asian-American/Pacific Islander
   d) Hispanic/Latino/Latina
   e) Native American
   f) Other/s Please specify_____________________

4. What is your class standing? Please check one line.
   ___ Freshman
   ___ Sophomore
   ___ Junior
   ___ Senior
   ___ Graduate student

5. What is your overall (cumulative) college GPA? Please list it here _________ (put n/a if you do not yet have a college GPA). If you are a transfer student, please give your GPA at your last college or university.

6. If you do not yet have a college GPA, what was your GPA when you graduated from High School? Please list it here _________ Was this on a maximum 4.0 scale? If not, what was the maximum possible GPA used at your High School? Please list it here _________

7. How satisfied are you with your current GPA? Check one.
   ___ Completely dissatisfied
   ___ Mostly dissatisfied
   ___ Slightly dissatisfied
   ___ Neutral - neither dissatisfied or satisfied
   ___ Slightly satisfied
   ___ Mostly satisfied
   ___ Completely satisfied

8. What do you think is the highest GPA you could realistically expect to obtain in college (the maximum possible GPA is 4.00)? Please list it here _________
9. How satisfied do you think your parents are with your GPA? Check one.

____ Completely dissatisfied
____ Mostly dissatisfied
____ Slightly dissatisfied
____ Neutral - neither dissatisfied or satisfied
____ Slightly satisfied
____ Mostly satisfied
____ Completely satisfied

10. What do you think your parents would like your GPA to be? Please list it here __________

11. Are you in the Honors program at this university or college?

____ Yes
____ No

12. Are you in an academic honor society at this university or college?

____ Yes
____ No
Almost Perfect Scale-Revised (APS-R; Slaney et al., 2001)

Instructions

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

Respond to each of the items using the scale below to describe your degree of agreement with each item. Fill in the appropriate number for each question.

1 2 3 4 5 6 7
Strongly Disagree Slightly Disagree Neutral Slightly Agree Agree 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.
____ 15. I often worry about not measuring up to my own expectations.
____ 16. My performance rarely measures up to my standards.
**APS-R continued**

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<td>1</td>
<td>Strongly Disagree</td>
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<td>2</td>
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___ 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 for 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.

Standards scale items: 1, 5, 8, 12, 14, 18, 22.

Discrepancy scale items: 3, 6, 9, 11, 13, 15, 16, 17, 19, 20, 21, 23.

Organization scale items: 2, 4, 7, 10.
Test of Self-Conscious Affect-3 Short Version (TOSCA-3S; Tangney & Dearing, 2002)

Below are situations that people are likely to encounter in day-to-day life, followed by several common reactions to those situations.

As you read each scenario, try to imagine yourself in that situation. Then indicate how likely you would be to react in each of the ways described. We ask that you rate all responses because people may feel or react more than one way to the same situation, or they may react different ways at different times.

For example:

A. You wake up early one Saturday morning. It is cold and rainy outside.

a) You would telephone a friend to catch up on news. 1---2---3---4---5
not likely very likely

b) You would take the extra time to read the paper. 1---2---3---4---5
not likely very likely

c) You would feel disappointed that it’s raining. 1---2---3---4---5
not likely very likely

d) You would wonder why you woke up so early. 1---2---3---4---5
not likely very likely

In the above example, I've rated ALL of the answers by circling a number. I circled a "1" for answer (a) because I wouldn't want to wake up a friend very early on a Saturday morning -- so it's not at all likely that I would do that. I circled a "5" for answer (b) because I almost always read the paper if I have time in the morning (very likely). I circled a "3" for answer (c) because for me it's about half and half. Sometimes I would be disappointed about the rain and sometimes I wouldn't -- it would depend on what I had planned. And I circled a "4" for answer (d) because I would probably wonder why I had awakened so early.
Please do not skip any items -- rate all responses.

1. **You make plans to meet a friend for lunch. At 5 o'clock, you realize you stood your friend up.**

   a) You would think: "I'm inconsiderate."  
   
   b) You would think: "Well, my friend will understand."  
   
   c) You'd think you should make it up to your friend as soon as possible.  
   
   d) You would think: "My boss distracted me just before lunch."

2. **You break something at work and then hide it.**

   a) You would think: "This is making me anxious. I need to either fix it or get someone else to."  
   
   b) You would think about quitting.  
   
   c) You would think: "A lot of things aren't made very well these days."

3. **At work, you wait until the last minute to plan a project, and it turns out badly.**

   a) You would feel incompetent.  
   
   b) You would think: "There are never enough hours in the day."  
   
   c) You would feel: "I deserve to be reprimanded for mismanaging the project."

   d) You would think: "What's done is done."
4. You make a mistake at work and find out a co-worker is blamed for the error.
   a) You would think the company did not like the co-worker.  
      1---2---3---4---5  
      not likely very likely
   b) You would think: "Life is not fair."  
      1---2---3---4---5  
      not likely very likely
   c) You would keep quiet and avoid the co-worker.  
      1---2---3---4---5  
      not likely very likely
   d) You would feel unhappy and eager to correct the situation.  
      1---2---3---4---5  
      not likely very likely

5. While playing around, you throw a ball and it hits your friend in the face.
   a) You would feel inadequate that you can't even throw a ball.  
      1---2---3---4---5  
      not likely very likely
   b) You would think maybe your friend needs more practice at catching.  
      1---2---3---4---5  
      not likely very likely
   c) You would think: "It was just an accident."  
      1---2---3---4---5  
      not likely very likely
   d) You would apologize and make sure your friend feels better.  
      1---2---3---4---5  
      not likely very likely

6. You are driving down the road, and you hit a small animal.
   a) You would think the animal shouldn't have been on the road.  
      1---2---3---4---5  
      not likely very likely
   b) You would think: "I'm terrible."  
      1---2---3---4---5  
      not likely very likely
   c) You would feel: "Well, it was an accident."  
      1---2---3---4---5  
      not likely very likely
   d) You’d feel bad you hadn’t been more alert driving down the road.  
      1---2---3---4---5  
      not likely very likely
7. You walk out of an exam thinking you did extremely well. Then you find out you did poorly.

a) You would think: "Well, it's just a test."  
   1---2---3---4---5  
   not likely very likely

b) You would think:  
   "The instructor doesn't like me."  
   1---2---3---4---5  
   not likely very likely

c) You would think:  
   "I should have studied harder."  
   1---2---3---4---5  
   not likely very likely

d) You would feel stupid.  
   1---2---3---4---5  
   not likely very likely

8. While out with a group of friends, you make fun of a friend who's not there.

a) You would think: "It was all in fun; it's harmless."  
   1---2---3---4---5  
   not likely very likely

b) You would feel small...like a rat.  
   1---2---3---4---5  
   not likely very likely

c) You would think that perhaps that friend should have been there to defend himself/herself.  
   1---2---3---4---5  
   not likely very likely

d) You would apologize and talk about that person's good points.  
   1---2---3---4---5  
   not likely very likely

9. You make a big mistake on an important project at work. People were depending on you, and your boss criticizes you.

a) You would think your boss should have been more clear about what was expected of you.  
   1---2---3---4---5  
   not likely very likely

b) You would feel like you wanted to hide.  
   1---2---3---4---5  
   not likely very likely

c) You would think: "I should have recognized the problem and done a better job."  
   1---2---3---4---5  
   not likely very likely

d) You would think: "Well, nobody's perfect."  
   1---2---3---4---5  
   not likely very likely
10. You are taking care of your friend’s dog while your friend is on vacation, and the dog runs away.

a) You would think, “I am irresponsible and incompetent.”
   1---2---3---4---5
   not likely very likely

b) You would think your friend must not take very good care of the dog or it wouldn’t have run away.
   1---2---3---4---5
   not likely very likely

c) You would vow to be more careful next time.
   1---2---3---4---5
   not likely very likely

d) You would think your friend could just get a new dog.
   1---2---3---4---5
   not likely very likely

11. You attend your coworker’s housewarming party and you spill red wine on a new cream-colored carpet, but you think no one notices.

a) You think your coworker should have expected some accidents at such a big party.
   1---2---3---4---5
   not likely very likely

b) You would stay late to help clean up the stain after the party.
   1---2---3---4---5
   not likely very likely

c) You would wish you were anywhere but at the party.
   1---2---3---4---5
   not likely very likely

d) You would wonder why your coworker chose to serve red wine with the new light carpet.
   1---2---3---4---5
   not likely very likely

Guilt items: 1c, 2a, 3c, 4d, 5d, 6d, 7c, 8d, 9c, 10c, 11b.

Shame items: 1a, 2b, 3a, 4c, 5a, 6b, 7d, 8b, 9b, 10a, 11c.
Rosenberg (1965) Self-Esteem Scale (RSES)

Indicate your degree of agreement with each statement as follows:

SA = Strongly Agree    A = Agree    D = Disagree    SD = Strongly Disagree

Circle One:

1) I feel that I am a person of worth, at least on an equal basis with others.  *
   SA A D SD

2) I feel that I have a number of good qualities.  *
   SA A D SD

3) All in all, I am inclined to feel that I am a failure.
   SA A D SD

4) I am able to do things as well as most other people.  *
   SA A D SD

5) I feel I do not have much to be proud of.
   SA A D SD

6) I take a positive attitude toward myself.  *
   SA A D SD

7) On the whole, I am satisfied with myself.  *
   SA A D SD

8) I wish I could have more respect for myself.
   SA A D SD

9) I certainly feel useless at times.
   SA A D SD

10) At times I think I am no good at all.
    SA A D SD

* = reverse-score item.
Aitken Procrastination Inventory (API; Aitken, 1982)

For each of the items below, please indicate the extent to which the statement is more or less FALSE (1) or TRUE (5) of you. Read each statement carefully; remember, there are no right or wrong answers.

1 = False
2 = Mostly false
3 = Sometimes false/sometimes true
4 = Mostly true
5 = True

____ 1. I delay starting things until the last minute.
____ 2. I’m careful to return library books on time. *
____ 3. Even when I know a job needs to be done, I never want to start it right away.
____ 4. I keep my assignments up to date by doing my work regularly from day to day. *
____ 5. If there were a workshop offered that would help me learn not to put off starting my work, I would go.
____ 6. I am often late for my appointments and meetings.
____ 7. I use the free hours between classes to get started on my evening’s work. *
____ 8. I delay starting things so long I don’t get them done by the deadline.
____ 9. I am often frantically rushing to meet deadlines.
____ 10. It often takes me a long time to get started on something.
____ 11. I don’t delay when I know I really need to get the job done. *
____ 12. If I had an important project to do, I’d get started on it as quickly as possible. *
____ 13. When I have a test scheduled soon, I often find myself working on other jobs when a deadline is near.
____ 14. I often finish my work before it is due. *
____ 15. I get right to work at jobs that need to be done. *
____ 16. If I have an important appointment, I make sure the clothes I want to wear are ready the day before. *
____ 17. I arrive at college appointments with plenty of time to spare. *
____ 18. I generally arrive on time to class. *
____ 19. I overestimate the amount of work that I can do in a given amount of time.

* = reverse-score items.
Personal Evaluation Inventory-Academic (PEI-A; Shrauger & Schohn, 1995)

Please read each statement carefully and think about whether you agree or disagree that it applies to you. Try to respond honestly and accurately, but it is not necessary to spend much time deliberating about each item. Think about how the item applies to you during the last two months.

Indicate your degree of agreement with each statement as follows:

1 = Strongly Disagree
2 = Mainly Disagree
3 = Mainly Agree
4 = Strongly Agree

___ 1. Academic performance is an area in which I can show my competence and be recognized for my achievement.

___ 2. I frequently wonder whether I have the intellectual ability to successfully achieve my vocational and academic goals. *

___ 3. I have recognized that I am not as good a student as most of the people I am competing with. *

___ 4. It bothers me that I don’t measure up to others intellectually. *

___ 5. When I take a new course I am usually sure that I will end up in the top 25% of the class.

___ 6. When I have to come through on important tests or other academic assignments I know that I can do it.

___ 7. I seek out activities that are intellectually challenging because I know I can do them better than most people.

* = reverse-score items.
Appendix B

Study Debrief Statement
Debrief Statement for “Self-Appraisals, Perfectionism, and Academics” Participants

Thank you very much for taking the time to participate in this study. We understand that portions of the questionnaire packet may have seemed redundant. However, for research such as this, it is important to assess psychological constructs with a variety of different questionnaires. When the different ways of looking at the same construct agree, this gives validity to the construct and to the conclusions drawn from the data.

Perfectionism has been linked with a vast array of negative personal and interpersonal outcomes. These include such things as depression, social anxiety, eating disorders, procrastination and relationship conflict. The present study is designed to examine the link between self-appraisals and perfectionism and the relationships between these and academic processes and outcomes in college undergraduates. Self-appraisals are how you think and feel about yourself and how you are likely to respond to negative events. The prediction of this study is that negative self-appraisals will predict maladaptive (or negative/unhealthy) perfectionism, which will be negatively associated with outcomes of students’ academic behaviors (e.g., procrastination) and outcomes (e.g., GPA). Better understanding of the nature of perfectionism in college undergraduates could be helpful to counselors and student affairs personnel who work to help students succeed in their academic and personal lives. The findings of this study will be made available to interested parties (e.g., university counselors, advisors, faculty, and researchers) through means such as personal consultations, presentations, and journal articles. Only group-level data will be discussed or presented; individual student names will never be used.

Although it was not expected that answering the questions of this study would cause you any distress, if it did cause you any discomfort, worry, or concern, there are a number of resources on campus that can assist you in dealing with these. For emotional distress, you can contact the University Counseling Service (UCS) at 828-6200. On the Monroe Park campus, UCS is located in room 238 of the Student Commons building. For academic concerns, you can speak with an academic advisor at the University College, phone 827-8648. They are located in the Hibus building across from the Shafer Court Dining Center. Many additional resources for other concerns are available via the VCU web site, <www.vcu.edu>. If you should be unable to find a needed resource, you can contact Mr. Canter or Dr. McCreary for assistance.

If you have additional questions about this study, you may contact:

Dave Canter, M.S., Graduate Student Researcher: <engtopsyc@yahoo.com>, or

Micah McCreary, M.Div., Ph.D., Principal Investigator: <mccreary@vcu.edu> Phone 804-828-1889.

Thanks again and good luck with the rest of the semester!
Vita

David E. Canter was born on June 19, 1963 in Washington, D.C. He graduated from Surrattsville Senior High School in Clinton, Maryland, in 1981 and went on to earn a Bachelor of Science degree in Aerospace Engineering from the University of Maryland, College Park, in December 1986. After graduation, he was employed as an aerospace engineer for the Department of the Navy for 12 years. In June 1991, Mr. Canter graduated from the United States Naval Test Pilot School (USNTPS Class 99), with a concentration area of Fixed Wing Aircraft Test Project Engineering. Following his decision to change careers and study psychology, Mr. Canter earned a Bachelor of Science degree in Psychology from the University of Maryland, University College, in 1998 by attending classes at night and on weekends while continuing to work full-time. Mr. Canter married Denise Peterson (nee Helm) in May 2000. He earned his Master of Science degree in Counseling Psychology from Virginia Commonwealth University in December 2003 and successfully completed his pre-doctoral internship at the APA-approved Student Counseling Services at Texas A&M University in July 2007.