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The Impact of Perfectionism Type on the Career Self-Efficacy, Vocational Identity, and Interest Differentiation of College Students

Elisabeth Musch



THE FLORIDA STATE UNIVERSITY
COLLEGE OF EDUCATION

THE IMPACT OF PERFECTIONISM TYPE ON THE CAREER SELF-EFFICACY,
VOCATIONAL IDENTITY, AND INTEREST DIFFERENTIATION OF COLLEGE
STUDENTS

By

ELISABETH MUSCH

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Elisabeth Musch defended this dissertation on June 10, 2013.

The members of the supervisory committee were:

James P. Sampson, Jr.
Professor Directing Dissertation

Gerald R. Ferris
University Representative

Janet G. Lenz
Committee Member

Debra S. Osborn
Committee Member

The Graduate School has verified and approved the above-named committee members and certifies that the dissertation has been approved in accordance with university requirements.

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ABSTRACT

Despite findings suggesting that perfectionism may have important implications for individuals' career development, little research has examined adaptive and maladaptive perfectionism within a career decision-making context. The purpose of the present study was to investigate the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students. Participants included 185 undergraduate students who volunteered to participate in a research pool in exchange for course credit. Score profiles on the Revised Almost Perfect Scale (APS-R) were used to categorize participants into groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists; the Competencies and Self-Estimates scales of the Self-Directed Search (SDS) were used to measure ipsative and relative career self-efficacy, respectively; the Vocational Identity scale (VIS) of the My Vocational Situation (MVS) was used to measure vocational identity; and the Iachan Differentiation Index score from the SDS was used to measure interest differentiation. A one-way between-groups multivariate analysis of variance found that perfectionism type accounted for a significant amount of the total variance (9.8%) among the four dependent variables. Follow-up univariate analyses of variance and post-hoc pairwise comparisons found that both adaptive perfectionists and maladaptive perfectionists demonstrated greater levels of relative career self-efficacy than non-perfectionists, and that adaptive perfectionists demonstrated a greater level of vocational identity than both maladaptive perfectionists and non-perfectionists. No significant group differences of perfectionism type were identified with respect to ipsative career self-efficacy or interest differentiation. Results of this study support the relevance of perfectionism to career development, and limitations and implications for theory, research, and practice are discussed.

CHAPTER 1

INTRODUCTION

Over time, perfectionism has evolved from being conceptualized in a unidimensional, singularly negative manner to being considered a multidimensional construct comprised of both adaptive and maladaptive elements. Maladaptive perfectionism, characterized by high standards in conjunction with a tendency to be self-critical, has demonstrated consistent relationships with negative outcomes, including greater levels of perceived stress, negative affect, and suicidal ideation. Adaptive perfectionism, typified by high standards in the absence of self-critical tendencies, has demonstrated relationships with both positive outcomes, such as greater levels of positive affect, and negative outcomes, such as a greater degree of perceived hassles (Stoeber & Otto, 2006). Researchers have acknowledged adaptive and maladaptive perfectionism's relevance to career decision making, and a handful of studies have shown that these constructs may be related to career indecision (Leong & Chervinko, 1996), career decision-making self-efficacy (Page, Bruch, & Haase, 2008), career attitude maturity (Park, Choi, Nam, & Lee, 2011), career interests, and work styles (Slyter, 2000).

Career self-efficacy can be defined as one's beliefs in his or her ability to perform tasks associated with a particular vocational domain (Lent & Brown, 2006). Social cognitive career theory (SCCT) highlights the contribution of self-efficacy beliefs to the pursuit of activities in a given area and the development of defined and lasting interests in that area, a theoretical supposition that has received considerable empirical support (Lent, 2013; Lent, Brown, & Hackett, 2002). New research has suggested that the Competencies and Self-Estimates scales of the vocational personality measure, the Self-Directed Search (SDS; Holland, Powell, & Fritzsche, 1994), may serve as ipsative and relative measures of career self-efficacy, respectively (Bullock-

Yowell, Peterson, Wright, Reardon, & Mohn, 2011). Additionally, there is evidence that adaptive perfectionism may be associated with higher self-efficacy, while maladaptive perfectionism may be associated with lower self-efficacy (Mills & Blankstein, 2000), including within the career decision-making domain (Page et al., 2008). As such, one may expect perfectionism type (i.e., an individual's classification as an adaptive perfectionist, maladaptive perfectionist, or non-perfectionist) to differentially impact career self-efficacy, as measured by scores on the SDS Competencies and Self-Estimates scales.

Holland's (1997) theory of vocational personalities and work environments posits that vocational identity is a construct that represents the clarity and stability of an individual's career-related interests, skills, and aspirations. Exploration is thought to be a task that undergirds the vocational identity development process (Erikson, 1968; Marcia, 1966), an idea consistent with SCCT's supposition that engagement in activities allowing for failure and success experiences is an important component of interest development. Theory and research evidence has suggested that a greater level of vocational identity is associated with greater levels of self-efficacy, career exploration (Gushue, Clarke, Pantzer, & Scanlan, 2006; Gushue, Scanlan, Pantzer, & Clarke, 2006), and stability of career aspirations (Santos, Casillas, & Robbins, 2004). Similarly, there is evidence that adaptive perfectionism shares direct relationships and maladaptive perfectionism shares inverse relationships with self-efficacy, active and problem-focused coping (Stoeber & Dirk, 2008), and goal progress and attainment (Powers, Milyavskaya, & Koestner, 2012). Unsurprisingly then, research has supported a direct relationship between adaptive perfectionism and personal identity development and an inverse relationship between maladaptive perfectionism and personal identity development (Luyckx, Soenens, Goossens, Beckx, & Wouters, 2008). Additionally, maladaptive perfectionism may negatively impact career attitude

maturity (Park et al., 2011) and career choice certainty (Page et al., 2008). Based on such findings, one would expect perfectionism type to differentially impact vocational identity.

A second construct included in Holland's theory of vocational personalities and work environments is interest differentiation. Differentiation, the degree of definition evident in a particular personality or occupational profile (Holland, 1997), is thought to indicate the extent to which one's interests are crystallized and one resembles the personality traits associated with a particular interest code. Holland (1985) proposed that differentiation and vocational identity are both measures of an individual's clarity of self-knowledge. In keeping with this notion, differentiation has also been shown to share relationships with self-efficacy (Davis, 2007), career exploration (Nauta & Kahn, 2007), and stability of vocational goals (Holland, 1968). As such, one may expect perfectionism type to impact differentiation.

The present study compared adaptive perfectionists, maladaptive perfectionists, and non-perfectionists with respect to ipsative and relative career self-efficacy (as measured by the Competencies and Self-Estimates scales of the SDS), vocational identity (as measured by the Vocational Identity scale of the My Vocational Situation; Holland, Daiger, & Power, 1980), and interest differentiation (as measured using SDS scores and the Iachan Differentiation Index; Iachan, 1984). This chapter continues with a statement of the problem addressed by the current study, the research question posed by this study, and the social significance of this research question.

Statement of the Problem

A considerable amount of research has examined the correlates of adaptive and maladaptive perfectionism. Similarly, there is a considerable amount of support for the theoretical suppositions of both SCCT and Holland's theory of vocational personalities and work

environments. However, despite findings indicating that perfectionism may have strong relevance to career decision making, comparatively little research has examined the impact person inputs or individual differences like perfectionism type may have on SCCT variables like career self-efficacy and the vocational outcomes to which these may relate, such as vocational identity and interest differentiation. Although preliminary evidence has suggested that perfectionism type, career self-efficacy, vocational identity, and interest differentiation may be related to one another, such relationships have never been empirically tested. Furthermore, although there is support for utilizing the SDS Competencies and Self-Estimates scales as measures of ipsative and relative career self-efficacy, only one study has done so (Bullock-Yowell et al., 2011). In addition to addressing methodological issues in the perfectionism and career literature that will be described in Chapter 2, the present study addressed the research gaps specified here.

Research Question

The current study posed the following research question to address the content gaps and methodological issues apparent in the extant literature: What is the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students?

Social Significance

This study examined the impact of perfectionism type on select career decision-making variables among college students because both perfectionism and career decision making are of particular importance to this population. Dickinson and Ashby (2005) cited a 1995 finding by the Research Consortium of Counseling and Psychological Services in Higher Education that 21% of men and 26% of women presenting for services at university counseling centers reported feeling

distressed by concerns related to perfectionism. Similarly, in studies using college samples, as many as 66% of participants have been classified as perfectionists (Rice & Lopez, 2004). Furthermore, as many as 33% of some college samples have been identified as maladaptive perfectionists (Rice, Richardson, & Clark, 2012). Meanwhile, Erikson (1968) proposed that one of the most central and distressing tasks for the late adolescent/early adult is the consolidation of a clear occupational identity. Similarly, Chickering and Reisser (1993) identified the crystallization of vocational plans and aspirations as a key component of developing purpose, one of the seven core “vectors” central to college student development. In keeping with these theoretical suppositions, Chandler and Gallagher (1996), in their examination of the most commonly occurring problems and complaints brought by students to university counseling centers, found that concerns related to career decision making, as well as perfectionism, were among those most frequently mentioned.

Additionally, perfectionism has been linked to numerous variables that may impact college functioning. For example, studies have highlighted the positive contribution of adaptive perfectionism and the negative contribution of maladaptive perfectionism to indices of academic, social, and psychological adjustment in college students (Rice, Vergara, & Aldea, 2006). As described previously, adaptive and maladaptive perfectionism have been shown to impact career indecision and the effective pursuit and attainment of goals in different ways (Leong & Chervinko, 1996; Powers et al., 2012). Such findings may have important implications for college students’ ability to not only choose an academic major in a timely fashion but also to subsequently persist in the completion of that major. Perfectionism may even determine the extent to which students who seek career counseling services can benefit from those services. For example, studies have suggested that, if not addressed, maladaptive perfectionism may have

a detrimental impact on the therapeutic relationship (Zuroff et al., 2000) and limit a client's response to treatment (Blatt, Quinlan, Pilkonis, & Shea, 1995). Similarly, a client's degree of career decision-making readiness may dictate the extent to which he or she is able to make effective use of tools like interest inventories (Toman & Savickas, 1997). A better understanding of how the dimensions of perfectionism impact career decision making may assist career practitioners in designing, targeting, and prioritizing interventions so that clients can be helped more successfully and their adjustment to college better facilitated.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of this chapter is to provide the reader with an overview of theory and empirical findings relevant to the present study. It begins with a discussion of the theoretical underpinnings and history of research on perfectionism. The chapter continues with an introduction to social cognitive career theory, which provides a theoretical framework for the current study and the construct of career self-efficacy. Next, an introduction to Holland's theory of vocational personalities and work environments is provided, along with a review of vocational identity and interest differentiation. The chapter concludes with the identification of content gaps and methodological issues in the relevant literature, as well as areas of needed research based on these concerns.

Perfectionism

In this section, a summary of the theoretical work underlying contemporary models and assessments of perfectionism is provided. A history of research on the construct is then discussed, with respect to its unidimensional, multidimensional, and adaptive and maladaptive conceptualizations and corresponding measures. Finally, research examining perfectionism within the context of career decision making is addressed.

Theoretical Underpinnings

Early literature attempting to define perfectionism and suggest mechanisms behind its etiology and maintenance was predominantly psychodynamic and cognitive-behavioral in perspective. For example, Freud (1959) contended that strong drives to succeed, avoid others' criticism, and appear unflawed can cause certain individuals to relentlessly pursue achievement. However, he felt that these drives may simultaneously render such individuals hypersensitive to

the scrutiny and judgment of both themselves and others. In other words, to Freud, a punitive and harsh superego can inspire achievement but also contribute to perfectionism, which he considered a symptom of obsessional neurosis characterized by dissatisfaction with one's accomplishments, vulnerability to criticism and failure experiences, susceptibility to depression and self-harm, and difficulty turning to others for assistance or support (Blatt, 1995).

Horney (1950), another psychoanalyst, contended that perfectionism, a neurosis resulting from self-righteous and invalidating parenting, is maintained by an internal narrative of "shoulds" and "should nots" pertaining to one's "idealized self." She identified the central features characterizing these narratives as the tendency to set impossibly high standards for oneself and disregard both internal and external factors that may impede goal attainment. According to Horney, two examples of unrealistic goals typical of perfectionists are striving for expertise in every area of life and attempting to never get hurt. She suggested that the neurotic need for perfection results in fear of making mistakes, hypersensitivity to criticism, and ruminative self-recriminations when impossible goals are not achieved. Horney felt that perfectionists are likely to hold others to similarly lofty standards and be excessively critical of them as well. Additionally, she believed that these individuals are prone to stress and restricted in their experience of spontaneous emotion.

Like Horney, the psychoanalytic theorist Hollender (1965) described perfectionism as the propensity to demand a degree of performance from both oneself and others that is disproportionately higher than that required by the circumstances. He felt that, although healthy individuals may strive for excellence, the high standards they set for themselves are achievable. In contrast, the perfectionist establishes impossibly high standards that, even when achieved, bring no sense of fulfillment. He suggested that when parents transmit even subtle messages

indicating that a child's underperformance renders him or her not only unacceptable but also a bad person, that child develops feelings of shame and inferiority. He proposed that perfectionism is created and maintained by that individual's subsequent attempts to build a more positive self-image and gain the acceptance of other people. Finally, Hollender contended that a failure to mitigate or otherwise cope with invariably unsuccessful attempts to achieve perfection can result in pathology, such as depression.

More recently, cognitive-behavioral theorists and researchers have proposed conceptualizations of perfectionism. In his original paper on rational emotive behavior therapy, Ellis (1958) included among his 12 basic irrational ideas the main irrational belief of perfectionists:

The idea that one should be thoroughly competent, adequate, intelligent, and achieving in all possible respects—instead of the idea that one should *do* rather than desperately try to do well and that one should accept oneself as an imperfect creature, who has general human limitations and specific fallibilities (p. 41, as cited in Ellis, 2002).

In other words, when perfectionists fail to achieve a desired goal, they are less likely to respond with compassionate self-acceptance and more likely to berate themselves with “should” statements. The results of such a response are feelings of guilt and frustration that trap perfectionists in self-punitive ruminations.

Ellis (2002) suggested that perfectionists are prone to escalating normal wishes or desires to inflexible demands because it may be difficult for them to distinguish their strong wishes from insinuations. In addition to seeming valid, these strong preferences often leave few alternative, comparatively satisfying options. Accordingly, perfectionists' strong desires encourage them to focus on a single choice, disparaging other options or failing to recognize them. Thus, the

perfectionist begins to see his or her preference as compulsory, rather than merely a favored choice. Ellis also pointed out that rigid demands for perfect performance can contribute to anxiety that may impede performance, secondary emotional disturbances (e.g., feeling anxious about one's anxiety), hyper-competitiveness, and an increased vulnerability to stress.

Beck's cognitive theory (1976) contends that perfectionism is a cognitive style characterized by systematic errors in reasoning that contribute to cognitive distortions. One such cognitive distortion is polarized or dichotomous thinking, which involves thinking about events in either-or extremes and labeled in black-or-white terms. Beck, in his discussion of polarized thinking, provided an example of a college student who applies perfectionistic tendencies to playing basketball, in the form of rigid criteria for a successful basketball performance. If the student scored less than eight points in a game, he had the automatic thought, "I'm a failure," and felt sad. If he scored eight points or more, he had the automatic thought, "I'm really a great player," and felt exhilarated. Another cognitive distortion common to perfectionism is overgeneralization, which refers to maintaining extreme beliefs on the basis of a single incident, and then inappropriately applying these beliefs to unrelated events or settings (Burns, 1980).

Pacht (1984), a final early theorist frequently referenced in the perfectionism literature, implicated perfectionism as a form of psychopathology in and of itself. Based on his research and clinical observations, he contended that perfectionists create for themselves a "no-win scenario" characterized by such unrealistically ambitious goals that they are doomed to failure. He posited that these individuals view themselves as unlovable and isolated, seek acceptance and success through the pursuit of perfection, but find no satisfaction in their accomplishments. He agreed with the idea that perfectionism is accompanied by cognitive distortions like dichotomous thinking, overgeneralization, and "should" statements, which along with their rigid goals,

condemn perfectionists to unhappiness. He highlighted the link between perfectionism and several physical and psychological diagnostic labels, including alcoholism, depression, eating disorders, irritable bowel syndrome, and ulcerative colitis. Finally, Pacht felt that perfectionists come from childhood environments in which acceptance is contingent upon perfect performance and are accordingly trapped in an ongoing pattern of seeking parental approval.

In summary, considerable overlap is evident in many early conceptualizations of perfectionism. For example, several of the clinicians, theorists, and researchers discussed above suggested that perfectionists share the tendency to view themselves negatively, equate self-worth and acceptance with achievement, set unrealistically high standards for themselves and others, fear failing and making mistakes, respond to failure with self- and other-critical ruminations, and experience little satisfaction with their successes. Additionally, the aforementioned theories commonly view perfectionism as a unidimensional, singularly maladaptive personality trait. These early characterizations of perfectionism are frequently cited as the basis for later conceptualizations of the construct.

Unidimensional Models

The first widely used measure of perfectionism was the Burns Perfectionism Scale (BPS; Burns, 1980). According to Burns, the perfectionist could be defined as an individual “whose standards are high beyond reach or reason...who strains compulsively and unremittingly toward impossible goals and who measures his worth entirely in terms of productivity and accomplishment” (p. 34). The BPS was derived from the Dysfunctional Attitudes Scale (Weissman & Beck, 1978), itself designed to measure the attitudes underlying psychopathology as conceptualized by Beck’s cognitive theory (Beck, 1976). A review of its items reveals that the BPS focused exclusively on the dysfunctional assumptions and beliefs thought to underlie

perfectionism and treated it as a unidimensional construct. The BPS has been criticized for its singularly maladaptive and unidimensional conceptualization of perfectionism, as well as the limited evidence that exists to support its reliability and validity (Enns & Cox, 2002; Frost, Marten, Lahart, & Rosenblate, 1990).

Perfectionism has been thought to predispose individuals to the development of disordered eating (e.g., Bruch, 1978; Slade, 1982). Given this hypothesized connection, instruments developed to assess eating disorders have often included measures of perfectionism, which reflect the unidimensional, neurotic conceptualization of perfectionism demonstrated by the BPS. Popular eating disorder assessments that incorporate a perfectionism subscale are the Eating Disorders Inventory (EDI; Garner, Olmstead, & Polivy, 1983), developed to measure psychological variables associated with anorexia and bulimia; Setting Conditions for Anorexia Nervosa Scale (SCANS; Slade, 1982), developed to measure psychological variables associated with anorexia and bulimia; and Neurotic Perfectionism Questionnaire (NPQ; Mitzman, Slade, & Dewey, 1994), developed to measure elements of perfectionism associated specifically with eating disorders. The ability of the EDI-P and SCANS-P to adequately measure a broad construct like perfectionism has been called into question, given their brevity (the former is comprised of six items, while the latter is comprised of eight). Additionally, researchers have pointed out the lack of evidence supporting the EDI-P, SCANS-P, and NPQ as stand-alone measures of the perfectionism construct and their limited definitions of it. For example, the EDI emphasizes personal standard setting and parental expectations, to the exclusion of other key characteristics of perfectionism (Enns & Cox, 2002; Frost et al., 1990).

Multidimensional Models of Perfectionism

To address the criticisms leveled at earlier attempts to define and measure perfectionism, Frost et al. (1990) attempted to identify characteristics central to the construct, create a measure that tapped these components, and use this measure to test hypotheses about the construct's nature and scope. To develop their conceptualization of perfectionism, they surveyed relevant literature for key descriptive features. Like many previous researchers, they proposed that a central characteristic of perfectionism is the setting of unrealistically high personal performance standards. However, in contrast to previous researchers, Frost and his colleagues suggested that an important distinction between perfectionists' high standards and high standards set by healthy individuals is that the former are accompanied by overly critical self-evaluations. They described one such critical evaluative tendency as the inclination to respond negatively to mistakes, equate them to failure, and predict the loss of others' respect as an outcome of failure. They described another as the tendency to feel that undertakings have not been completed to satisfaction. Frost and his colleagues identified a fourth key characteristic of perfectionism as the belief that one's parents set high goals, a fifth as the belief that one's parents were excessively critical, and a sixth as a strong preference for order and organization. Based on this conceptualization, they developed the Multidimensional Perfectionism Scale (F-MPS), which provides a total score as well as scores on six subscales reflective of the aforementioned qualities: Personal Standards, Concern Over Mistakes, Doubts About Actions, Parental Expectations, Parental Criticism, and Organization.

Frost et al.'s (1990) subsequent series of analyses supported the above factor structure. Additionally, they found that, contrary to popular belief, Concern Over Mistakes rather than Personal Standards was the factor most central to perfectionism. Meanwhile, Organization did

not appear to be a defining feature of the construct. The authors' findings indicated that perfectionists may experience a greater variety and frequency of psychopathological symptoms, higher levels of self-critical depression, and frequency and severity of procrastination than non-perfectionists. Finally, they pointed out that the separate dimensions of perfectionism may relate differently to depression, procrastination, and psychopathology. For example, Concern Over Mistakes, Doubts About Actions, Parental Expectations, and Parental Criticism demonstrated significant direct relationships with fear of failure, task aversiveness, and procrastination, while Personal Standards and Organization demonstrated significant inverse relationships with procrastination.

The following year, Hewitt and Flett (1991) introduced a second multidimensional conceptualization of perfectionism. They criticized previous conceptualizations of the construct for failing to address both intra- and inter-individual components and proposed both personal and social dimensions thought to comprise it. Namely, they contended that overall perfectionistic behavior is comprised of self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. According to Hewitt and Flett, self-oriented perfectionism includes behaviors commonly seen as the hallmark of perfectionism, including setting demanding standards, critically evaluating and faulting one's performance, and striving to achieve perfection and avoid failures. Other-oriented perfectionists set excessively high standards for others, feel it is important that others be perfect, and are strongly evaluative and critical of others' behavior. Finally, socially prescribed perfectionists believe that others have excessively high expectations for their performance, appraise them critically, and stress the need for them to be perfect. The authors designed a measure, also titled the Multidimensional Perfectionism Scale (HF-MPS),

which yields scores on three subscales: Self-Oriented Perfectionism, Other-Oriented Perfectionism, and Socially Prescribed Perfectionism.

Hewitt and Flett (1991) evaluated the extent to which the three subscales of their measure correlated with measures of personality, performance standards, and psychopathology. Their results supported the existence of significant relationships between self-oriented perfectionism and several self-related constructs, including high standards, self-criticism, and self-blame. Other-oriented perfectionism, meanwhile, was significantly correlated with superiority-related constructs, such as other-blame, authoritarianism, and dominance. Finally, socially prescribed perfectionism demonstrated significant correlations with socially relevant constructs, including demand for others' approval, fear of negative evaluation, and locus of control. Meanwhile, there was little crossover between the three perfectionism dimensions and their respective relationships with constructs relevant to the self, superiority, or social interaction. Additionally, the three perfectionism subscales demonstrated differential patterns of relationships with measures of psychopathology. For example, other-oriented perfectionism was correlated with "dramatic cluster" personality disorders, while socially prescribed perfectionism was correlated with avoidant, borderline, passive aggressive, schizoid, and schizotypal personality disorders.

Johnson and Slaney (1996) proposed a third conceptualization of perfectionism, intended to devote focus to positive aspects of perfectionism and counseling implications, in addition to the negative aspects traditionally associated with the construct. Their literature review suggested that perfectionism seems comprised of the following five dimensions: (1) Setting high standards, (2) behaving in an orderly fashion, (3) feeling anxious, (4) tending to procrastinate, and (5) experiencing interpersonal difficulties. As with Frost et al. (1990) and Hewitt and Flett (1991), the authors attempted to create a measure intended to tap these dimensions. Their subsequent

principal-components analyses yielded four factors, namely Standards and Order, Anxiety, Interpersonal and Counseling Relationship Difficulties, and Procrastination. The resulting measure of perfectionism was termed the Almost Perfect Scale (APS). The researchers found that perfectionists demonstrated higher Standards and Order scores, lower Procrastination scores, and similar Relationship Difficulties scores, compared to non-perfectionists. They also found that perfectionists who reported that their perfectionism was problematic demonstrated higher Anxiety and Procrastination scores but similar Standards and Order and Relationship Difficulties scores, compared to perfectionists who reported that their perfectionism was not problematic.

The differential patterns of relationships between the various components of perfectionism identified by researchers like Frost et al. (1990), Hewitt and Flett (1991), and Johnson and Slaney (1996) underscore the importance of a multidimensional approach in the conceptualization and measurement of perfectionism. Since the development of the F-MPS, HF-MPS, and APS, several other measures of perfectionism, such as the Positive and Negative Perfectionism Scale (Terry-Short, Owens, Slade, & Dewey, 1995), the Perfectionism Questionnaire (Rheaume, Freeston, Ladouceur, Bouchard, Gallant, & Talbot, 2000), and the Perfectionism Inventory (Hill, Huelsman, Furr, Kibler, Vicente, & Kennedy, 2004) have been created. However, the F-MPS, HF-MPS, and the revised version of the APS (discussed below) are thought to have had the greatest impact on the study of perfectionism and have seen the most use in perfectionism research. As an aid to the reader, Table 1 summarizes the authors, subscales, and internal consistencies of these varied measures of perfectionism.

Table 1

Subscales and Reliability Coefficients of Major Multidimensional Perfectionism Measures

| Authors | Measure and Subscales | Reliability ^a |
|-----------------------|---|--------------------------|
| Frost et al. (1990) | Multidimensional Perfectionism Scale (F-MPS) | |
| | Personal Standards | .81 |
| | Organization | .94 |
| | Concern Over Mistakes | .91 |
| | Doubts About Actions | .79 |
| | Parental Criticism | .77 |
| Hewitt & Flett (1991) | Multidimensional Perfectionism scale (HF-MPS) | |
| | Self-Oriented Perfectionism | .86 |
| | Other-Oriented Perfectionism | .82 |
| Slaney et al. (2001) | Revised Almost Perfect Scale (APS-R) | |
| | High Standards | .85 |
| | Order | .82 |
| | Discrepancy | .91 |

^a Alpha coefficients obtained for each subscale during scale development are provided.

Adaptive and Maladaptive Perfectionism

More recently, perfectionism researchers have evaluated the extent to which the construct has both adaptive and maladaptive dimensions. Missildine (1963) and Hamachek (1978), in their writings about “normal” and “neurotic” perfectionism, were among the first to point out that the

impact of perfectionism need not always be negative. According to Missildine, normal perfectionists are able to derive fulfillment through their meticulous efforts; in short, they are able to develop their self-esteem, appreciate their skills, and enjoy their successes. Similarly, Hamachek contended that normal perfectionists may set high standards for their performance but are not only able to find satisfaction in their achievements but also to relax their standards when necessary. Both authors felt that neurotic perfectionists, in contrast, do not derive pleasure or fulfillment from their successes because they never feel as though they have performed well enough to deserve such satisfaction. Hamachek went on to postulate other important distinctions between normal and neurotic perfectionists. Namely, normal perfectionists are able to set goals that account for their strengths and limitations, while neurotic perfectionists typically set unrealistic goals. Additionally, neurotic perfectionists may have tense and deliberate attitudes toward tasks, while normal perfectionists are more likely to be careful but relaxed.

Several factor analytic studies have provided supported for Hamachek's differentiation between an adaptive and maladaptive form of perfectionism. For example, Frost, Heimberg, Holt, Mattia, and Neubauer (1993) attempted to evaluate the extent to which the dimensions of the F-MPS and HF-MPS may overlap. Their factor analysis of subscale scores from these instruments suggested the existence of a two-factor solution. The first factor, comprised of the Concern Over Mistakes, Doubts About Actions, Parental Criticism, and Parental Expectations subscales of the F-MPS, as well as the Socially Prescribed Perfectionism subscale of the HF-MPS, was called Maladaptive Evaluative Concerns. The second factor, which they called Positive Striving, was comprised of the Personal Standards and Organization subscales of the F-MPS, as well as the Self-Oriented Perfectionism and Other-Oriented Perfectionism subscales of the HF-MPS. Frost et al.'s results supported the existence of significant relationships between

the Maladaptive Evaluative Concerns factor, negative affect, and depressive symptoms (but not positive affect) and between the Positive Striving factor and positive affect (but not negative affect or depressive symptoms).

Slaney, Ashby, and Trippi (1995) attempted to replicate and extend these findings using confirmatory factor analysis on the subscales of the F-MPS, HF-MPS, and APS. They found a factor structure very similar to that found by Frost et al. (1993). Namely, an Adaptive Perfectionism factor was detected, upon which the Personal Standards and Organization subscales of the F-MPS, the Self-Oriented and Other-Oriented subscales of the HF-MPS, and the Standards and Order subscale of the APS loaded. Additionally, a Maladaptive Perfectionism factor was identified, onto which the Concern Over Mistakes, Doubts About Actions, Parental Expectations, and Parental Criticism subscales of the F-MPS; the Socially Prescribed Perfectionism subscale of the HF-MPS; and the Relationship Difficulties, Anxiety, and Procrastination subscales of the APS loaded. The authors contended that this pattern of results supports the existence of a normal-neurotic continuum of perfectionism, with high personal standards not being problematic unless accompanied by maladaptive psychological factors.

Bieling, Israeli, and Antony (2004) used confirmatory factor analysis to compare three conceptually unique models of perfectionism. In the first model, the F-MPS and HF-MPS were treated as distinct; the second proposed a single perfectionism factor common to all subscales of these two measures; and the third specified a two-factor solution comprised of a Maladaptive Evaluative Concerns factor and a Positive Strivings factor. This last conceptual model, differentiating between adaptive and maladaptive perfectionism was found to best fit the data. Additionally, Maladaptive Evaluative Concerns was found to predict scores on measures of psychopathology, while Positive Strivings did not.

Based on findings like these, Slaney, Rice, Mobley, Trippi, and Ashby (2001) undertook the task of revising the APS such that it addressed criticisms leveled at previous perfectionism measures and tapped the essential nature of both adaptive and maladaptive perfectionism. For example, the authors criticized Frost et al.'s (1990), Hewitt and Flett's (1991), and Johnson and Slaney's (1996) conceptualizations of perfectionism for, rather than providing specific definitions of the construct, highlighting its causes or effects. Slaney et al. (2001) pointed out that Frost et al.'s (1990) Parental Expectations and Parental Criticism dimensions, as well as Hewitt and Flett's (1991) Socially Prescribed Perfectionism dimension, appear to be causal factors in the development of perfectionism. Additionally, Frost et al. (1990)'s Concern Over Mistakes, Doubts About Actions, and Organization dimensions; Hewitt and Flett's (1991) Other-Oriented Perfectionism dimension; and Johnson and Slaney's (1996) Anxiety, Procrastination, and Relationship Difficulties dimensions can all be viewed as outcomes of being perfectionistic. Furthermore, the authors stated that although previous factor analytic studies found the adaptive perfectionism factor to be dominated by subscales measuring high standards, the defining characteristic of the maladaptive perfectionism factor remained unclear.

To address these issues, Slaney et al. (2001) conducted a literature review, drawing heavily from empirically supported positive and negative qualities of perfectionism, as well as Slaney and Ashby's (1996) and Slaney, Chadha, Mobley, and Kennedy's (2000) qualitative studies, in which interviews were carried out with criterion groups of perfectionists. The results suggested that while adaptive perfectionism may be best characterized by the establishment of high standards and a preference for orderliness, "the perception that personal high standards are not being met" (i.e., a sense of discrepancy) may represent the primary characteristic of maladaptive perfectionism.

Through the above review and Slaney et al. (2001)'s series of subsequent factor analyses, the APS was refined into the Revised Almost Perfect Scale (APS-R), a measure that yields scores on three subscales: High Standards, Order, and Discrepancy. Subsequent studies have found that while High Standards loads onto an adaptive perfectionism factor and Discrepancy loads onto a maladaptive perfectionism factor, Order may actually load onto a factor separate from adaptive or maladaptive perfectionism (Rice, Lopez, & Vergara, 2005; Suddarth & Slaney, 2001) and is not a scale key to the identification of adaptive or maladaptive perfectionists within a sample (Rice & Ashby, 2007).

Since then, numerous researchers have investigated the psychological correlates of perfectionism, using a maladaptive and adaptive conceptualization of the construct, most frequently comprised of some combination of F-MPS, HF-MPS, and APS-R subscales. Such studies have typically utilized either of two approaches: A dimensional approach in which perfectionism facets are combined to form independent factors and a group-based approach in which perfectionism facets are used to form groups or "subtypes" of perfectionists (Stoeber & Otto, 2006).

These subtypes include adaptive perfectionists, who possess high achievement or performance standards in the absence of overly critical self-evaluations; maladaptive perfectionists, who possess high achievement or performance standards in conjunction with overly critical self-evaluations; and non-perfectionists, who possess low to average achievement or performance standards (Rice & Ashby, 2007). When these subtypes are compared, maladaptive perfectionists typically demonstrate higher levels and adaptive perfectionists typically demonstrate lower levels of negative processes, outcomes, and characteristics than the other groups. Meanwhile, the opposite pattern of group differences is seen with respect to

positive processes, outcomes, and characteristics (Stoeber, 2012b). Some studies have used a four-subtype model of perfectionism in which non-perfectionists are further categorized as either low in both standards and self-criticism or low in standards and high in self-criticism. However, researchers have deemed this model interesting but lacking in parsimony and relevance, in that high standards (and not self-criticism) are considered central to the definition of perfectionism (Rice, Ashby, & Gilman, 2011).

Researchers have assigned the two dimensions of perfectionism varying names, including among those listed above, active and passive (Adkins & Parker, 1996), conscientious and self-evaluative (Hill et al., 2004), functional and dysfunctional (Rheume et al., 2000), healthy and unhealthy (Stumpf & Parker, 2000), personal standards and evaluative concerns (Blankstein & Dunkley, 2002), and positive and negative perfectionism (Terry-Short et al., 1995). The current study utilizes the labels adaptive perfectionism and maladaptive perfectionism to refer to the positive and negative dimensions of the construct.

Despite these different labels, maladaptive perfectionism has been consistently linked to negative outcomes, such as greater levels of perceived stress (e.g., Chang, Watkins, & Banks, 2004), avoidant coping (e.g., Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000), negative affect (e.g., Bieling et al., 2004), suicidal ideation (e.g., Enns, Cox, Sareen, & Freeman, 2001), and self-conscious emotions like shame and guilt (e.g., Tangney, 2002). Findings pertaining to adaptive perfectionism have been more mixed, in that the construct has demonstrated relationships with both positive outcomes, such as greater positive affect (e.g., Chang et al., 2004) and active coping (Dunkley et al., 2000), and negative outcomes, such as greater negative affect (e.g., Bieling et al., 2004) and perceived hassles (e.g., Dunkley et al., 2000). Although a comprehensive review of the correlates of perfectionism is beyond the scope

of this paper, Stoeber and Otto (2006) and Lee (2007) provided thorough reviews of the correlates of adaptive and maladaptive perfectionism, respectively.

In their comprehensive review of findings pertaining to adaptive perfectionism, Stoeber and Otto (2006) highlighted a number of methodological criticisms regarding studies in this area, as well as recommendations for strengthening future research. They pointed out that adaptive and maladaptive perfectionism have been operationally defined using many different perfectionism subscale combinations, rather than focusing on known core facets of the constructs. They stated that factor analytic findings have suggested that Order from the APS-R and Organization from the F-MPS may load onto a third factor independent of adaptive and maladaptive perfectionism (Rice et al., 2005; Suddarth & Slaney, 2001). Stoeber and Otto (2006) also echoed Slaney et al.'s (2001) proposition that Parental Criticism and Parental Expectations from the F-MPS may more accurately represent developmental antecedents of perfectionism and indicated that Other-Oriented Perfectionism from the HF-MPS holds an ambivalent theoretical status that has contributed to its exclusion in many perfectionism studies.

Stoeber and Otto (2006) suggested that future studies focusing on adaptive and maladaptive perfectionism should adhere to defining adaptive perfectionism in terms of Personal Standards from the F-MPS, Self-Oriented Perfectionism from the HF-MPS, and/or High Standards from the APS-R. Meanwhile, maladaptive perfectionism should be operationally defined using Concern Over Mistakes and Doubts About Actions from the F-MPS, Socially Prescribed Perfectionism from the HF-MPS, and/or Discrepancy from the APS-R. Table 2 summarizes these key facets of adaptive and maladaptive perfectionism, identifies the perfectionism dimension with which each has been associated in the research literature, and indicates the measures from which these facets originate.

Table 2

Key Facets of Adaptive and Maladaptive Perfectionism

| Measure | Subscales | Adaptive | Maladaptive |
|---------|-----------------------------------|----------|-------------|
| F-MPS | Personal Standards | X | |
| | Concern Over Mistakes | | X |
| | Doubts About Actions | | X |
| HF-MPS | Self-Oriented Perfectionism | X | |
| | Socially Prescribed Perfectionism | | X |
| APS-R | High Standards | X | |
| | Discrepancy | | X |

Note. Based on findings discussed in Stoeber and Otto (2006).

A second methodological issue highlighted in Stoeber and Otto's (2006) review is the concern that inconsistent findings, particularly those seen regarding the correlates of adaptive perfectionism, may result from overlap between the perfectionism construct's adaptive and maladaptive components. The authors proposed that, because adaptive and maladaptive perfectionism are somewhat correlated, they can suppress one another's respective contributions to certain outcomes. They found that controlling for this overlap provides more consistent evidence that adaptive perfectionism is related to primarily positive outcomes, a finding later supported by Hill, Huelsman, and Araujo (2010).

Stoeber and Otto (2006) stated that correlation between perfectionism dimensions is less an issue for studies employing a group-based approach. This is because these studies use either dichotomization of perfectionism facet scores or cluster analysis to create groups with minimal overlap in the facets comprising adaptive and maladaptive perfectionism. In light of these

recommendations, the current study utilized a group-based approach in which perfectionism types were operationalized using the APS-R. The APS-R was chosen because it was developed specifically to measure the key components of both adaptive and maladaptive perfectionism, considerable evidence exists to support its reliability and validity, and researchers have standardized cutoff scores (on scales considered core facets of the two perfectionism dimensions) useful in identifying comparison groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists within a sample (Rice & Ashby, 2007).

Perfectionism and Career Decision Making

A search of the PsycINFO database for studies using perfectionism as a variable yielded over 1,300 results, the vast majority of which were conducted following the publication of the F-MPS and HF-MPS in the early 1990s. Of these, only a handful examined the contribution of perfectionism to factors pertaining to career decision making. Slaney et al. (1995) were the first to call attention to this gap in the perfectionism literature. The authors pointed out that the dearth of research in this particular area exists despite the seeming potential for important implications of perfectionism for career choice and attributed it to the lack of clear operational definitions of perfectionism. Additionally, they recommended investigating the association between perfectionism and a variety of career variables, including career indecision, vocational interests, vocational interest structure, and career decision-making self-efficacy.

Since the publication of Slaney et al.'s (1995) article, the perfectionism and career decision making literature has seen a small but observable increase in attention. The most notable line of research in this area has explored the relationship between perfectionism and career indecision, which can be defined as difficulties encountered prior to and during the career decision-making process that may prevent an individual from making an optimal career decision

or from making any career decision at all (Gati, Krausz, & Osipow, 1996). Researchers hypothesized that maladaptive perfectionism may contribute to difficulties making career decisions, given maladaptive perfectionists' proclivities towards high anxiety, low self-esteem, an external locus of control, high neuroticism, and procrastination (Park et al., 2011).

Several studies have provided support for the aforementioned supposition. Some of these examined perfectionism without consideration for its maladaptive and adaptive dimensions. For example, Emmett and Minor (1993) interviewed 30 gifted young adults about factors impacting their career decision making. Content analysis of the responses revealed that perfectionism and heightened sensitivity to others' expectations (often included in conceptualizations of perfectionism) were most frequently mentioned as considerations and sources of difficulty in making career decisions. Using a more quantitative approach, Jones (1990) administered the BPS and the Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koschier, 1987) to 253 high school students and found that perfectionism was a significant positive predictor of career indecision. Finally, Gati et al. (2011) administered the Emotional and Personality Career Difficulties Scale (EPCD; Saka, Gati, & Kelly, 2008) and the HF-MPS to 1,389 Israeli university students and community members. They found that total score on the HF-MPS appeared directly related to career decision-making difficulties concerned with anxiety about the career decision-making process; anxiety about the uncertainty, act, and outcome of choosing; and the developmental personality aspects of the individual (i.e., trait anxiety, general and career-specific self-esteem, and personal and vocational self-concept).

Other studies supporting a relationship between perfectionism and career indecision evaluated the comparative impact of maladaptive and adaptive perfectionism. Leong and Chervinko (1996) were the first to use a multi-dimensional measure of perfectionism to evaluate

the contribution of perfectionism to career indecision. After administering the HF-MPS and CDS to 217 undergraduate students, their results suggested that Self-Oriented Perfectionism (a key facet of adaptive perfectionism) was a significant negative predictor of career indecision, Socially Prescribed Perfectionism (a key facet of maladaptive perfectionism) was a significant positive predictor of career indecision, and Other-Oriented Perfectionism did not predict career indecision. In the first study to use multi-dimensional measures of both perfectionism and career indecision, Frederikson (2009) utilized an existing data set comprised of scores on the F-MPS and the Career Factors Inventory (CFI; Chartrand, Robbins, Morrill, & Boggs, 1990), obtained from 476 students in an undergraduate career exploration course. The researcher found that maladaptive perfectionists exhibited greater career choice anxiety and a more pervasive pattern of indecisiveness than adaptive perfectionists but not non-perfectionists. Finally, Lehmann and Konstam (2011) investigated the roles of perfectionism and problematic Internet use in the failure of Internet-based information to improve emerging adults' career consolidation. They administered the Career Decision-Making Difficulties Questionnaire (CDDQ; Gati, Krausz, & Osipow, 1996), a modified version of the F-MPS, and the expanded version of the Internet Addiction Test (IAT²; Widyanto & McMurrin, 2004) to 486 emerging adults and found that, although problematic Internet use explained the most variance in career indecision, maladaptive perfectionism (but not adaptive perfectionism) was a significant positive predictor of career indecision.

Only one study suggested little to no relationship between perfectionism and career indecision. Osborn (1999) pointed out that studies supporting a relationship between the two constructs had not controlled for the contribution of variables like anxiety, known to be strongly related to both. She tested the hypothesis that when controlling for anxiety, perfectionism would

account for significant variance in career indecision. She administered the F-MPS, Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996), CDS, and the State-Trait Anxiety Inventory-Form Y (STAI; Spielberger, 1977) to 123 college students. Osborn found that when controlling for trait anxiety, perfectionism was unable to account for a significant amount of the career indecision variance, leaving dysfunctional career thoughts as the only statistically significant contributor. She also found that when considering the ability of specific F-MPS subscales to predict career indecision, the Doubt About Actions subscale (commonly associated with maladaptive perfectionism) was the only significant contributor after controlling for anxiety.

Other studies addressing perfectionism and career decision making have been conducted outside systematic lines of research; however, these studies have provided preliminary evidence linking perfectionism and career decision-making self-efficacy (Ganske & Ashby, 2007; Page et al., 2008; discussed later), career attitude maturity (Park et al., 2011, also discussed later), career interests, and work styles. For example, Slyter (2000) administered the F-MPS and the Strong Interest Inventory (SII; Borgen, Hammer, Hanson, & Harmon, 1994) to 110 undergraduate students and found that high scores on F-MPS subscales commonly associated with maladaptive perfectionism (most notably Concern Over Mistakes and Doubts About Actions) may predict more preference for safe and predictable activities and less preference for social activities. Meanwhile high scores on subscales commonly associated with adaptive perfectionism (most notably Personal Standards) may predict a preference for activities indicative of a value for independence and achievement. This study addressed the lack of research linking perfectionism and career decision making by exploring the impact of perfectionism type on career self-efficacy,

vocational identity, and interest differentiation, using the methodological recommendations described previously.

Social Cognitive Career Theory and Career Self-Efficacy

In this section, the theoretical assumptions of social cognitive career theory are described, along with the interest development and choice models proposed by the theory. Self-efficacy is discussed, as well as the Competencies and Self-Estimates scales of the Self-Directed Search (SDS; Holland et al., 1994) as a means by which to measure career self-efficacy. This section concludes with a review of research linking perfectionism and self-efficacy.

Social Cognitive Career Theory

Inspired by the call for integration between competing career theories, social cognitive career theory (SCCT; Lent, 2013; Lent, Brown, & Hackett, 1994; 2000; 2002) attempts to provide a unifying framework by which major variables within the career literature are identified and explanations of the experiential and cognitive processes linking them together are proposed. SCCT has its origins in Bandura's social cognitive theory (SCT; 1977; 1997). For example, it subscribes to the triadic-reciprocal model of causality postulated by Bandura (1986), in which personal attributes (e.g., self-efficacy, outcome expectations, personal goals), contextual factors (e.g., gender, socioeconomic status, physical health), and overt behavior interact to influence vocational interests, choices, and performance.

Three variables integral to SCT are also given a central role in the SCCT conceptualization of personal determinants of career development: Self-efficacy, outcome expectations, and personal goals. SCCT posits four interlocking models of vocational interest, choice, performance, and satisfaction, in which self-efficacy, outcome expectations, and personal goals influence one another (Lent, 2013). The interest development model and choice model will

be discussed here, because they provide a framework by which to link the present study's variables of interest.

The interest development model articulates the experiential and cognitive mechanisms that give rise to career interests, as well as the contribution of these interests to choice behavior and skill acquisition. SCCT holds that individuals are likely to develop lasting interest in an activity when they believe that they can perform it competently and produce valuable outcomes in doing so. Furthermore, as interest in an activity grows in this manner, people form goals to sustain or increase their involvement in related tasks. These goals then contribute to additional participation in the activity and failure or success experiences that serve to reinforce or modify self-efficacy beliefs, outcome expectations, and interests. In contrast, should a person's self-efficacy beliefs about a particular activity be poor, or should he or she anticipate performance of the activity to result in neutral or negative outcomes, that individual is less likely to develop an interest in it. Indeed, he or she may form an aversion to the activity in question (Lent, 2013; Lent et al., 2002).

The choice model provides the SCCT conceptualization of the career choice process and builds on the previously described interest development model. More specifically, interests are promoted by self-efficacy and outcome expectations but then themselves serve to affect one's intentions or plans to pursue a career path. These goals result in actions intended to implement a particular vocational goal, and the success or failure of these actions contribute to the refinement of self-efficacy beliefs, outcome expectations, and career choice behavior. SCCT highlights the impact of contextual factors on both the interest development model and the choice model. It distinguishes between distal contextual influences and proximal influences. Distal influences are background factors, such as culture and skill development opportunities, thought to mold social

cognitions and interests. For example, through gender role socialization, girls are more likely to develop greater self-efficacy for “feminine” activities like artwork than for “masculine” activities like science. Meanwhile, proximal influences, such as discrimination and other sociocultural barriers, are thought to influence critical points in the choice process by enhancing or detracting from the opportunity structure available to a person at these important moments. For instance, a lack of job availability, emotional support, or financial support in a particular career path may make someone less able or willing to convert career interests pertaining to that path into goals and goals into actions. Accordingly, the choice model does not make the assumption that career choice is the sole outcome of an individual’s career interests (Lent, 2013; Lent et al., 2002).

Considerable research has provided evidence in support of the above models. A meta-analytic study conducted by Lent et al. (1994) found that self-efficacy and outcome expectations demonstrated strong correlations with occupational interests. The researchers also found evidence that self-efficacy may mediate the relationship between ability and interests. Betz (2007) reported that self-efficacy and interest correlations found in the literature tend to range from .40 to .50 and highlighted a series of key studies in this area. Among these were a meta-analysis conducted by Rottinghaus, Larson, and Borgen (2003), who found that interest-efficacy correlations may differ between Holland themes, with the lowest correlations (.50) seen in the Enterprising domain and the highest (.68) seen in the Investigative domain. Kahn (2001) found that, in a sample of graduate students, research self-efficacy predicted changes in research interests. Similarly, Tracey (2002) used structural equation modeling to learn that, for fifth-grade and seventh-grade students, confidence in the six Holland themes likely led to the development of interests in these areas (and vice versa) over a period of one year. Nauta, Kahn, Angell, and Cantarelli (2002) tested five causal models and found that the reciprocal model proposed by

Tracey (2002) best fit the longitudinal Holland-theme self-efficacy and interest data they gathered from a sample of college students. Silvia (2003) learned that self-efficacy and interests may in fact share a curvilinear relationship, in which interests increase as self-efficacy increases, only to decrease as self-efficacy becomes too high. The authors explained that one consequence of excessively high self-efficacy may be boredom, and that although this data may not have strong implications for college students, it may contribute to career dissatisfaction in adults.

SCCT's interest development and choice models represent well-supported theoretical frameworks. However, critics have pointed out areas of these models that lack empirical support. For example, it has been highlighted that, despite SCCT's emphasis on the contribution of person inputs to SCCT variables and career development outcomes, relatively few studies have examined the impact of such person variables (Betz, 2007; Lent et al., 2002; Schaub, 2003). The current study addressed this content gap by examining the impact of perfectionism type on the SCCT variable of career self-efficacy and career develop outcomes to which it may be related.

Career Self-Efficacy

Bandura (1994) defined self-efficacy as “people’s belief about their abilities to produce designated levels of performance that exercise influence over events that affect their lives” (p. 71). Self-efficacy is typically examined with respect to specific domains of functioning, although there is some debate regarding whether the construct can also be general in nature (i.e., the positive belief in one’s ability to exercise control over a variety of challenging tasks and to cope well in general with adverse events; Schwarzer & Jerusalem, 1995). Bandura (1989) theorized that efficacy beliefs are created via the cognitive processing of information originating from various sources. These sources include performance mastery experiences, vicarious experiences for comparing one’s capabilities to the performance of others, verbal persuasion and other social

influences, and physiological states through which one may evaluate personal capabilities and vulnerabilities. Additionally, as mentioned in the discussion on SCCT's interest development and choice models, self-efficacy beliefs are thought to influence individuals' effort and persistence in endeavors, the distress they experience in taxing situations, and selection of environments.

Betz (2007) stated that, because of the behavior-domain-specificity of most self-efficacy research, a multitude of instruments have been developed to measure various forms of self-efficacy. The career theorist John Holland (1997) proposed that his well-known measure of vocational personality, the SDS, incorporates measurement of perceived skills and abilities into its structure. More specifically, the Competencies section of the SDS measures an individual's beliefs about his or her ability to successfully perform activities typical of each of Holland's six personality/occupational types. Meanwhile, the Self-Estimates section assesses an individual's beliefs about the extent to which he or she possesses generic abilities associated with the aforementioned six personality/occupational types, compared to same-aged peers. In other words, Holland felt that his measure's Competencies and Self-Estimates scales could be considered measures of career self-efficacy (Gottfredson, 2002), which can be defined as an individual's beliefs regarding his or her ability to perform tasks related to a particular vocational area (Lent & Brown, 2006). Some researchers have proposed that, given the nature of the instructions inherent to the Competencies and Self-Estimates scales, the former can be considered a measure of ipsative career self-efficacy, while the latter can be considered a measure of relative career self-efficacy (Bullock-Yowell et al., 2011). Holland (1997) suggested that it is unnecessary to administer measures of vocational self-efficacy external to the SDS,

given that the Competencies and Self-Estimates scales are intended to serve as integrated measures of self-efficacy within specific interest domains.

This supposition is supported by findings like those of Feehan and Johnston (1999), who administered the SDS and the Task-Specific Occupational Self-Efficacy Scale (TSOSS; Osipow, Temple, & Rooney, 1993) to 112 high school career planning students and determined that interest measurement by the SDS was a significant predictor of career self-efficacy. Similarly, Brown, Lent, and Gore (2000) and Savickas, Taber, and Spokane (2002) found that the SDS Competencies and Self-Estimates scales were highly correlated with other measures of skills confidence. Bullock-Yowell et al. (2011) administered the SDS and the Skills Confidence Inventory (SCI; a self-efficacy measure commonly used by practitioners; Betz, Borgen, & Harmon, 1996) to 238 university students. Using hierarchical regression analyses, they found that for the Investigative, Artistic, and Social domains, SDS Competencies and SDS Self-Estimates scores accounted for significant variance in SDS summary scores, with SCI scores failing to capture significant incremental variance beyond the contribution of these two scales. The authors stated that unique characteristics of their sample may have contributed to unclear findings with respect to the Enterprising, Conventional, and Realistic domains. These results at least partially support Holland's prediction that the SDS Self-Estimates and SDS Competencies scales may serve as embedded measures of career self-efficacy, rendering the use of external measures unnecessary.

One purpose of this study was to explore the impact of perfectionism type on ipsative and relative career self-efficacy, as measured by the Competencies and Self-Estimates scales of the SDS, respectively. The SDS was chosen due to its status as one of the most frequently used interest inventories, as well as its consideration of self-efficacy in the measurement of interests, a

variable research suggests may be related to perfectionism type. Literature supporting this relationship is described in the next section. Holland, his theory of vocational personalities and work environments, and the SDS will be discussed again later in greater detail.

Relevant Empirical Findings

Burns (1980) provided an SCT-based rationale regarding the impact of perfectionism on self-efficacy beliefs and outcome expectations. He proposed that, because the likelihood of successfully achieving a desired result is inversely proportional to the stringency of the standard used to evaluate that result, the perfectionist's overly ambitious goals undermine his or her outcome expectations and self-efficacy. Other theorists have proposed that while adaptive perfectionists are able to develop flexible and realistic goals and derive fulfillment from their accomplishments, maladaptive perfectionists rigidly adhere to unrealistic performance standards and deem even strong efforts unsatisfactory (Hamachek, 1978). By their very definition, maladaptive perfectionists are prone to feelings that they are failing to achieve the high standards they set for themselves. One can imagine that such self-critical proclivities would serve to undermine their confidence in their capabilities and their expectations of success or failure for tasks undertaken. Meanwhile, the high personal performance standards, in the absence of self-critical tendencies, thought to characterize adaptive perfectionists are likely to facilitate greater self-efficacy and more positive outcome expectations (Slaney et al., 2001).

Previous studies have supported the existence of the relationships proposed above. Dinter (2000) found that, in a sample of 195 college juniors and seniors, the Striving for Perfectionism scale of the Basic Adlerian Scales for Interpersonal Success-Adult Inventory (BASIS-A; Wheeler, Kurn, & Curlette, 1993) explained a significant amount (22%) of the variance in general self-efficacy. Martin, Flett, Hewitt, and Krames (1996) administered the HF-MPS to 179

undergraduate students and found that Self-Oriented Perfectionism (a key facet of adaptive perfectionism) and Other-Oriented Perfectionism were positively related to general and social self-efficacy, while Socially Prescribed Perfectionism (a key facet of maladaptive perfectionism) was negatively related to these variables. Similarly, Mills and Blankstein (2000) found Self-Oriented Perfectionism to be directly associated and Socially Prescribed Perfectionism to be inversely associated with self-efficacy for learning and performance in a group of 207 undergraduates.

Stoeber, Hutchfield, and Wood (2008) found that, in a sample of 100 British undergraduates, adaptive perfectionism (operationalized by the Striving for Perfection Scale; Stoeber & Rambow, 2007) was associated with greater self-efficacy (after the influence of maladaptive perfectionism was parceled out) and higher aspirations prior to completing a task. Furthermore, after experiencing success at a task, adaptive perfectionists tended to increase their aspirations by choosing more difficult tasks to which to progress. Meanwhile, maladaptive perfectionism (operationalized by the Self-Criticism subscale of the revised Attitudes Toward Self Scale; Carver, La Voie, Kuhl, & Gannellen, 1988) was associated with lower self-efficacy prior to a task. Additionally, maladaptive perfectionists showed a decrease in self-efficacy after receiving failure feedback following task completion, as well as decreases in their aspiration levels regardless of receiving success or failure feedback. Using the APS-R with 199 undergraduate students, LoCicero and Ashby (2000) found higher levels of general and social self-efficacy in adaptive perfectionists, compared to both maladaptive perfectionists and non-perfectionists.

Two studies yielded findings that did not support a direct relationship between adaptive perfectionism and self-efficacy and/or an inverse relationship between maladaptive

perfectionism and self-efficacy. In their sample of 271 undergraduates, Hart, Gilner, Handal, and Gfeller (1998) found that low levels of general self-efficacy were weakly associated with high levels of self-oriented perfectionism and other-oriented perfectionism but low levels of socially prescribed perfectionism. In their previously mentioned study, LoCicero and Ashby (2000) found no differences in self-efficacy between maladaptive perfectionists and non-perfectionists with respect to general and social self-efficacy. It is possible that the use of a general self-efficacy measure partially explains the above findings, given the recommendation that self-efficacy typically be assessed in a domain-specific fashion (Lent & Brown, 2006). Additionally, LoCicero and Ashby (2000) utilized a median split on the APS-R's Discrepancy subscale to differentiate between adaptive and maladaptive perfectionists, rather than the empirically-supported cutoff scores recommended by Rice and Ashby (2007), which may have impacted findings.

More specific to the career arena, research has evaluated the extent to which the previously discussed findings may extend to career decision-making self-efficacy. Career decision-making self-efficacy is defined as an individual's cognitive appraisal of his or her ability to successfully complete tasks related to career choice and development (Hackett & Watkins, 1995). Findings in this area have been mixed, with one study finding seemingly beneficial associations with adaptive perfectionism without corresponding harmful effects of maladaptive perfectionism on career decision-making self-efficacy and another finding maladaptive perfectionism to share an inverse relationship with career decision-making self-efficacy.

Ganske and Ashby (2007) administered the APS-R and the short form of the CDSE (CDSE-SF; Betz, Klein, & Taylor, 1996) to 201 university students. They found that adaptive

perfectionists demonstrated greater career decision-making self-efficacy than both maladaptive perfectionists and non-perfectionists. However, maladaptive perfectionists did not demonstrate lower career decision-making self-efficacy than non-perfectionists. The authors suggested that these results could be due to more accurate self-appraisal and maintenance of an internal locus of control on the part of adaptive perfectionists. They also suggested that maladaptive perfectionists' pursuit of high standards may serve to moderate the negative effects of their harsh self-evaluations on career decision-making self-efficacy. However, the researchers utilized cluster analysis to identify perfectionism subtypes within their sample, which Rice and Ashby (2007) pointed out can contribute to inconsistent findings. In contrast, Page, Bruch, and Haase (2008) administered select subscales of the F-MPS and HF-MPS to 212 undergraduate volunteers and found maladaptive and adaptive perfectionism to be significant positive and negative predictors of career decision-making self-efficacy, respectively, even after controlling for the contribution of important five-factor personality traits. Clearly, more research is needed in this area.

To summarize, the majority of findings have supported the supposition that adaptive perfectionists have high self-efficacy, while maladaptive perfectionists have low self-efficacy in a variety of different domains. On the basis of such findings, as well as evidence that the SDS Competencies and Self-Estimates scales are measures of ipsative and relative career self-efficacy, one may expect adaptive perfectionists to demonstrate higher scores on these scales than maladaptive perfectionists. This prediction raises questions concerning the career implications of these potential group differences in self-efficacy.

From an SCCT perspective, a possible outcome of low self-efficacy or poor outcome expectations is reduced engagement in activities that can provide failure and success

experiences. It is through this engagement that well-defined interests are formed and self-knowledge (e.g., self-efficacy beliefs and outcome expectations) is reinforced or modified (Lent, 2013; Lent et al., 2002). Indeed, literature examining self-efficacy and career exploration lends support to this theoretical relationship. For example, Blustein (1989) discovered that career decision-making self-efficacy is a significant predictor of self- and environmental exploration and may in fact be more important than the internalization of mature goals and values in the evocation of career exploration activity. Betz and Vuyten (1997) observed that beliefs that exploratory behavior would lead to useful career development outcomes predicted 25% and 29% of the variance in intentions to explore careers among female and male undergraduate students, respectively, a finding supported by Ochs and Roessler (2001) in a sample of high school students. Fouad and Spreda (1996) determined that general self-efficacy and career outcome expectations were significant predictors of exploratory intentions in middle school students. Ochs and Roessler (2004) found that career decision self-efficacy and career outcome beliefs were significant contributors to exploratory intentions in both general and special education high school students but pointed out that the unique contribution of each predictor may vary by group membership. Creed, Patton, and Prideaux (2007) and Rogers and Creed (2011) found that career decision-making self-efficacy was an important predictor of both current career planning and exploration, as well as changes in career planning and exploration over time, even after controlling for relevant biographic variables. Additionally, there is evidence that self-efficacy may be an important mediator in the relationship between certain variables and career exploration (Germeijs & Verschueren, 2009).

Similarly, research suggests a relationship between self-efficacy and work experience, which researchers often interpret to represent a form of work role experimentation or career

exploration (Stringer & Kerpelman, 2010). For example, Stringer and Kerpelman (2010) discovered that, in a sample of 345 undergraduate students, individuals with greater career decision self-efficacy reported having held a higher number of jobs. Similarly, Yoshima (2010) found that participation in international volunteer work projects was associated with greater general self-efficacy among Japanese university students. Brooks, Cornelius, Greenfield, and Joseph (1995) learned that, in a sample of 165 college seniors, the specific qualities of internship and work experiences may be an important predictor of career self-efficacy. For example, the researchers discovered that more feedback and opportunities to deal with other people were related to greater career self-efficacy.

According to SCCT, a second outcome of low self-efficacy or poor outcome expectations is reduced persistence in the pursuit of vocational goals. Lent et al. (2003) stated that, in comparison to interest and choice, persistence has not been widely studied and has traditionally been operationalized as academic continuation or turnover. A meta-analysis conducted by Multon, Brown, and Lent (1991) found an effect size estimate of .34 for the relationship between self-efficacy beliefs and academic persistence, suggesting that self-efficacy beliefs accounted for approximately 12% of the variance in academic persistence across studies. Schaefers, Epperson, and Nauta (1997) determined that, in a sample of 278 engineering majors, math and science self-efficacy added significant incremental variance to other SCCT variables in the prediction of persistence in the major (and indeed, was a considerably more important predictor than gender). Similarly, Eccles (1994) and Mau (2003) found that math self-efficacy was the most important of several predictors in persistence in science and engineering careers. Additionally, there is evidence that career self-efficacy may mediate the relationship between SCCT variables, such as contextual supports (e.g., parental support or counseling sessions received), and persistence in

career aspirations (Restubog, Florentino, Raymund, & Garcia, 2010) and that the key role played by self-efficacy beliefs in predicting persistence in vocational goals holds across different cultural groups (Bordes-Edgar, Arredondo, Kurpius, & Rund, 2011; Gloria, Castellanos, Lopez, & Rosales, 2005; Majer, 2009; Ojeda, Flores, & Navarro, 2011).

In keeping with the above findings, some perfectionism literature supports the possibility that adaptive and maladaptive perfectionists may demonstrate differences in the extent to which they engage in exploratory behavior and in the stability of their goals. For example, some perfectionism and self-efficacy research has suggested that self-efficacy may mediate the relationship between the dimensions of perfectionism and one's tendency to cope using either adaptive, problem-focused strategies or strategies involving avoidance behavior. Using select subscales from the F-MPS, HF-MPS, and Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976), Dunkley et al. (2003) found that, for 163 undergraduate students, self-efficacy mediated the relationship between maladaptive perfectionism and avoidant coping in stressful situations. The researchers suggested that because maladaptive perfectionists lack confidence in their ability to successfully address stressful situations, they choose avoidant coping tendencies.

Similarly, there is evidence that self-efficacy may mediate the relationship between adaptive perfectionism, maladaptive perfectionism, and goal progress or attainment. For example, Powers et al. (2012) administered modified versions of the HF-MPS, select items representing self-criticism, and measures of goal self-efficacy and goal progress to 193 undergraduate students. They found that, after controlling for self-oriented perfectionism, the self-criticism commonly associated with maladaptive perfectionism was inversely related to self-reported goal progress. In contrast, after controlling for self-criticism, self-oriented perfectionism

was directly related to self-reported goal progress. The authors also found that self-efficacy, implementation planning, and goal-related flow mediated the relationship between perfectionistic self-criticism and goal progress. Meanwhile, implementation planning and goal-related flow mediated the relationship between self-oriented perfectionism and goal progress. These results suggest that maladaptive perfectionists may experience less confidence in their ability to perform goal-related tasks, less ability to effectively plan actions by which to implement goals, and less ability to engage effortlessly in goal pursuit, resulting in reduced goal pursuit and attainment. Meanwhile, adaptive perfectionists may demonstrate tendencies toward increased planning and a greater level of effortless, ego-syntonic focus upon goals that facilitate their goal pursuit and attainment.

As will be discussed in the following section, the relationship between self-efficacy, engagement in activities that serve to develop vocational interests, and persistence in vocational aspirations may have important career implications for maladaptive and adaptive perfectionists. More specifically, these may contribute to group differences by perfectionism type with respect to indices of interest crystallization. Additional findings such as the above will be discussed in greater detail in the following section, with respect to their implications for career decision-making variables such as interest differentiation and vocational identity.

Holland's Theory of Vocational Personalities and Work Environments

This section introduces the theoretical assumptions underlying Holland's theory of vocational personalities and work environments. It continues with an overview of the SDS and its primary and secondary constructs, before describing the secondary constructs of vocational identity and differentiation in greater detail. Finally, a review of the research linking perfectionism and vocational identity and differentiation is provided.

Theoretical Assumptions

Researchers have highlighted the importance of attending to person-environment interactions in any study of human behavior. John Holland is widely recognized as the strongest proponent of this perspective within vocational psychology (Spokane, Luchetta, & Richwine, 2002). The primary concern of Holland's (1997) theory of vocational personalities and work environments (RIASEC theory) is to provide an explanation for vocational behavior and identify practical strategies by which individuals of all ages can choose, change, and find satisfaction in jobs. The theory posits eight working assumptions, the first four of which comprise its key suppositions, and the second four of which address person-environment interactions:

1. Most people's personalities can be categorized as one of six different types: Realistic, Investigative, Artistic, Social, Enterprising, or Conventional. Each type is typified by certain interests, favored activities, values, abilities, and characteristics.
2. Similarly, most environments can be categorized by the extent to which they are Realistic, Investigative, Artistic, Social, Enterprising, or Conventional. Each environment poses unique challenges and is dominated by a particular type of personality.
3. People seek out environments in which they will be able to pursue the use or expression of favored skills and abilities, attitudes and values, and problems and roles. To some degree, environments seek people via relationship building and recruiting.
4. People's personalities and characteristics of their environments interact with one another to determine their behavior. Outcomes of these interactions include vocational choices, changes, achievement, and competence, as well as social and educational behavior (Holland et al., 1994).

5. Environments are experienced as reinforcing and satisfying when their characteristics resemble the personality patterns of the individual within them. Through frequent selective reinforcement of behavior, such congruent situations result in stability of behavior.
6. Congruent person-environment interactions contribute to behavioral stability, while incongruent interactions contribute to behavioral change. The more congruent the person-environment interaction, the more a person changes to resemble the dominant persons within the environment.
7. People address incongruence with their environments by either seeking out more congruent environments or by altering their behavior and perceptions.
8. Reciprocal interactions between individuals and their environments typically lead to a sequence of success and satisfaction cycles (Spokane et al., 2002).

The six RIASEC types listed above can be conceptualized as arranged around the points of a hexagon in the following order, in order to facilitate interpretation of inter- and intra-class relationships between personality and environment types: Realistic people are mechanically and athletically skilled, prefer working outdoors, and enjoy working with things instead of people. Examples of Realistic occupations include mechanic and farmer. Investigative people are skilled in mathematics and science and prefer working alone, solving problems, and understanding events and ideas, rather than selling things to or persuading others. Examples of Investigative occupations are anthropologist and medical technician. Artistic people are artistically skilled and enjoy creating original work and working with creative ideas and self-expression, rather than rules or routines. Examples of Artistic occupations are writer and composer. Social people like to be around others, helping others solve problems and understanding how others get along. They

much prefer helping, counseling, or teaching others to working in a mechanical or technical capacity. Examples of Social occupations are nurse and counselor. Enterprising people are skilled leaders and public speakers; enjoy money and politics; and would rather direct, influence, or persuade others than work with complex or scientific topics. Examples of Enterprising occupations are buyer and manager. Conventional people have mathematical and clerical abilities and enjoy working indoors, organizing things, following orderly routines, and meeting clear standards. They avoid work that lacks clear guidelines, and examples of Conventional occupations are secretary and financial analyst (Holland, 1997).

Holland's RIASEC theory is widely recognized as having greatly facilitated the generation of knowledge in career development, assessment, and practice. Most notably, Holland's RIASEC personality and environment types, the relationships amongst them, and his other theoretical assumptions have provided the basis for many testable hypotheses. This, the many instruments developed by Holland and his colleagues for the purpose of assessing the RIASEC types of persons (e.g., the Vocational Preference Inventory; VPI; Holland, 1985) and environments (e.g., the Position Classification Inventory; PCI; Gottfredson & Holland, 1991), Holland's system for classifying occupations using the RIASEC types, and the materials corresponding with this classification system (e.g., the *Dictionary of Holland Occupational Codes*; Gottfredson & Holland, 1996) comprise some of Holland's considerable contributions to the field of vocational psychology (Nauta, 2010).

Primary and Secondary Constructs of the Self-Directed Search

Holland's RIASEC theory has been touted for its empirical soundness and practical utility (Rayman & Atanasoff, 1999). One of the theory's practical strengths is that its premises have served as the basis for the development of many assessment tools. Of these, perhaps the

most widely used is the SDS, a self-administered, self-scored, and self-interpreted measure of vocational personality and career counseling tool comprised of an assessment booklet, an occupational classification booklet, and an interpretive guide (Spokane et al., 2002). The SDS was developed to assist counselors in serving more people and to provide clients with a career counseling experience even in the absence of a career counselor (Holland et al., 1994).

Although multiple versions of the SDS exist, the SDS Form R will be utilized by the present study. More specifically, the Internet version of the SDS Form R (Holland et al., 1999) will be employed. In order to complete the assessment associated with this form of the SDS, users list their occupational aspirations; indicate their preferred activities, competencies, and occupational preferences in each of the RIASEC areas; and rate their abilities in each RIASEC area. On the basis of these responses, the SDS yields a number of primary and secondary constructs that can provide diagnostic information about the client's decision-making process (Holland et al., 1994).

RIASEC theory's primary constructs include the client's Holland code and congruence. A person's Holland code is typically comprised of the first letters of the three RIASEC types most strongly resembled by the individual in question and provides information about his or her interests, values, and personal qualities. However, Holland recommended rank ordering all six types to describe one's personality (Holland, 1997). Congruence refers to the degree of fit between any two Holland codes (e.g., the code of an individual's personality and the code of the work environment he or she currently occupies or anticipates entering; Reardon & Lenz, 1998).

RIASEC theory's secondary constructs include coherence of aspirations, consistency, commonness, differentiation, vocational identity, and more recently, profile elevation. Coherence of aspirations refers to the degree to which the codes of one's occupational aspirations fit into the

same RIASEC category. Consistency refers to the distance between the first two letters of one's summary code on the Holland Hexagon, with more closely located letters representing more related or overlapping interests. Commonness refers to the frequency with which a particular code is observed within one's norm group. Differentiation refers to the degree of definition in a particular profile, with people who resemble one primary RIASEC type being highly differentiated and people who resemble all six being undifferentiated. Vocational identity refers to the stability and clarity of one's interests, skills, and goals (Holland et al., 1980). Finally, profile elevation is the sum of an individual's scores across the six sections of the SDS (Bullock & Reardon, 2005). Because vocational identity and differentiation are variables directly addressed by the present study, they will be discussed in more detail.

Vocational Identity

In Holland's theory, vocational identity is defined as the clarity and stability of one's career-related goals, interests, personality, and abilities. A greater level of vocational identity may suggest greater ease in making career decisions and confidence in one's ability to make positive career decisions, even when challenged by environmental ambiguities (Holland et al., 1980). Lower levels of vocational identity, meanwhile, may indicate potentially unstable interests that cannot be reliably used in generating options, lower self-esteem, and difficulty making effective use of information about the self and options gained from the SDS without assistance (Reardon & Lenz, 1998).

Some researchers have also applied the identity development theories of Erikson and Marcia to the study of vocational identity development. Erikson (1968) postulated that human development unfolds through a series of predetermined and sequential stages, each marked by a particular psychosocial crisis. At each crisis, the individual is faced with decisions that hold the

potential to impact his or her development in either positive or negative ways. Erikson felt that people tend toward the establishment of strong, stable self-identities, and that this progress takes place through personal exploration within many contexts of life, including the vocational domain. He stated that the psychosocial crisis facing the late adolescent is the formation of a coherent ego (i.e., identity versus role confusion). Resolution of this crisis leads to a stable ego identity characterized by a clear and consistent set of values, beliefs, goals, and attitudes, while failure to resolve it leads to the inability to successfully engage the tasks associated with this stage of development, including the career development process. Erikson (1968) stated that “in general, it is the inability to settle on an occupational identity which most disturbs young people” (p. 132).

Marcia (1966) built on Erikson’s concept of the identity versus role confusion developmental task by proposing four distinct ways in which this task can be resolved (i.e., four ego identity statuses): Diffusion, foreclosure, moratorium, and achievement. Identity diffusion, considered the least mature and complex status, is characterized by a lack of exploration of and commitment to a set of personal beliefs and values. In foreclosure, a commitment is made, based not on the exploration of alternatives but on external forces, such as parental pressures. Moratorium is an identity status typified by the active exploration of options but no current commitment to a clearly defined sense of values and beliefs. Finally, individuals in identity achievement have successfully completed the personal exploration process associated with moratorium and formed stable commitments based on a clear identity (Marcia, 1993).

Two tasks that undergird the identity development process as described by Erikson and Marcia are exploration and commitment. The proposed centrality of these tasks is consistent with SCCT’s emphasis on the importance of engagement in activities that permit failure and success

experiences, itself driven by self-efficacy beliefs and outcome expectations, in achieving a clear sense of one's interests and goals. It is also consistent with Holland's schematic representation of development, which suggests that Holland perceived active engagement in activities (often chosen on the basis of natural competencies) as a key contributor to the development of interests (i.e., personality; Gottfredson, 2002). Reardon and Lenz (1998) made the clinical observation that clients with low self-esteem often demonstrate weaker vocational identities.

On the basis of Holland and Holland's (1977) research concerning the correlates of career indecision and Erikson's (1963) suppositions about identity, Holland et al. (1980) created the My Vocational Situation (MVS) diagnostic form. This instrument was intended to serve as a screening measure by which career practitioners could identify clients likely to require counselor intervention in order to benefit from taking the SDS. It assesses three characteristics thought to be important contributors to undecidedness: Vocational identity, the need for occupational information, and internal and external barriers to decision making. Although different measures have been used to assess vocational identity (e.g., the CDS), the 18-item Vocational Identity (VI) scale of the MVS has been the measure most frequently used for this purpose. The current study utilized the VIS of the MVS as its measure of vocational identity, due to its strong theoretical foundation, the empirical support it has received (Holland, Johnston, & Asama, 1993), and its common administration with the SDS (Reardon & Lenz, 1998).

Strohm (2008) reported the use of the MVS in over 90 studies. There is evidence that, among other correlates, vocational identity shares relationships with career commitment (Grotevant & Thorbecke, 1982; Orkibi, 2010), career decision-making readiness (Hirschi & Läge, 2007), career indecision (Conneran & Hartman, 1993; Hartman, Fuqua, & Hartman, 1982; Lucas, Gysbers, Buescher, & Heppner, 1988), life satisfaction (Olson, Johnston, & Kuncce, 1985;

Hirschi, 2011), well-being and adjustment (Savickas, 1985; Strauser, Lustig, & Ciftci, 2008), dysfunctional career thoughts, and vocational calling (Galles & Lenz, in press). Nauta (2010) described vocational identity as an understudied construct and stated that additional research is required to better understand it. This study sought to contribute to research in this area by examining the impact of perfectionism type on vocational identity.

Relevant Empirical Findings

Based on the information discussed above, a greater level of vocational identity is theoretically indicative of greater career exploration, self-efficacy, and stability of vocational goals or aspirations. In keeping with this supposition, a number of studies support the theoretical link between career exploration and vocational identity. Blustein, Devenis, and Kidney (1989) found that vocational self- and environmental exploration were related to the exploration and commitment typical of the moratorium and identity achievement statuses. Ladany, Melincoff, Constantine, and Love (1997) determined that at-risk urban high school students who were less open to vocational exploration possessed less stable vocational identities. Robitschek and Cook's (1999) path analytic study supported a significant, albeit modest, contribution of career exploration to vocational identity. The authors suggested that the strength of this relationship may have been suppressed due to their sample of first-year college students, most of whom were involved in career exploration but had yet to form clear vocational identities (i.e., it may have been too early to observe a discernible impact). Shoffner and Newsome (2001) found that vocational exploration and commitment accounted for 37% of the variance in ego identity development in gifted female adolescents (the most of several different factors in the study). Finally, career interventions focused upon increasing vocational exploration have often shown

evidence of concomitant increases in vocational identity from pre-test to post-test (Scott & Ciani, 2008; Thomas & McDaniel, 2004).

Some studies have examined self-efficacy, career exploration, and vocational identity in conjunction with one another. Gushue, Clark et al. (2006) and Gushue, Scanlan et al. (2006) examined the relationships between career decision-making self-efficacy, career exploration, and vocational identity in understudied groups of high school students. These studies found that both Black and Latino/Latina students who were more confident in their ability to successfully perform career decision-making tasks were also more likely to report greater levels of vocational identity and involvement in more career exploration activities. Jantzer, Stalides, and Rottinghaus' (2009) path analytic study revealed that, in a sample of eighth-graders, individuals with higher levels of career decision-making self-efficacy and positive outcome expectancies tended to endorse responses indicative of a more developed vocational identity status. Furthermore, individuals in moratorium acknowledged the importance of career planning and voiced intentions to engage in career exploration activities, while individuals in identity diffusion were less likely to perceive career planning to result in rewarding outcomes and to report intentions to engage in career exploration. Similarly, Stringer and Kerpelman (2010) used structural equation modeling to find that college students with higher career decision-making self-efficacy had greater levels of career identity exploration and identification with career identity commitment.

As described previously, maladaptive perfectionism is thought to be associated with lower self-efficacy, while adaptive perfectionism is thought to be associated with higher self-efficacy. On the basis of SCCT, Holland's RIASEC theory, and the identity development theories of Erikson and Marcia, it can be consequently hypothesized that, through mechanisms

such as differential engagement in career exploration, maladaptive perfectionists may be expected to possess a greater level of vocational identity, while adaptive perfectionists may be expected to possess a lower level of vocational identity.

Currently, there is no research that evaluates the above relationships directly. However, perfectionism studies carried out primarily with college students indirectly support these hypotheses. Berzonsky (1992) proposed that more identity diffused individuals tend to avoid dealing with their problems, conflicts, and decisions. As mentioned previously, there is evidence that adaptive perfectionists are more likely to utilize an active and problem-focused coping style when responding to stressors, while maladaptive perfectionists are more likely to cope using avoidance. This is of key importance in light of a finding by Robitschek and Cook (1999) that avoidant coping may be a negative predictor of career exploration. Rice and Lapsley (2001) compared groups of perfectionists and found that adaptive perfectionists demonstrated significantly greater use of active coping, planning, and social support and less use of denial, disengagement, and alcohol or drug consumption than either maladaptive perfectionists or non-perfectionists. Burns and Fedewa (2005) found that maladaptive perfectionists were less likely to respond to distress with an action orientation and more likely to rely on rumination and unhealthy forms of distraction (e.g., engagement in dangerous activities). Adaptive perfectionists were more likely to engage actively with their problems and utilize healthy distraction.

Several structural equation modeling studies have examined the mediating role of coping in the relationship between perfectionism dimensions and indices of psychological distress. Their findings have demonstrated that maladaptive perfectionists are more likely to react to stress with denial, behavioral disengagement, and mental disengagement, and that maladaptive perfectionism is either negatively related or unrelated to active coping (Dunkley et al., 2000;

Dunkley, Sanislow, Grilo, & McGashan, 2006; Dunn, Whelton, & Sharpe, 2006; Hill, Hall, & Appleton, 2010; Weiner & Carton, 2012). Meanwhile, several of these studies have found adaptive perfectionism to be positively related to active coping, planning, and suppression of competing activities and either negatively related or unrelated to avoidant coping (Dunkley et al., 2000; Hill et al., 2010; Weiner & Carton, 2012).

SCCT proposes that highly efficacious people are able to approach tasks as challenges to be mastered, while less efficacious people tend to see them as threats to be avoided (Bandura, 1997; Jerusalem & Schwarzer, 1992). Stoeber and Dirk (2008) used hierarchical multiple regressions to reveal that facets of adaptive perfectionism were directly related to challenge appraisals and active coping and inversely related to threat and loss appraisals and avoidant coping. Meanwhile, facets of maladaptive perfectionism demonstrated the opposite pattern of relationships. This finding, along with those described previously are consistent with those suggesting differing levels of self-efficacy between maladaptive and adaptive perfectionists.

Based on such findings, Luyckx et al. (2008) predicted that adaptive perfectionists would respond to the challenge of consolidating a personal identity by thoroughly and actively exploring their options, rather than engaging in neurotic rumination regarding said options. In contrast, they predicted that maladaptive perfectionism would be related to ruminative, rather than active identity exploration. Accordingly, the authors hypothesized that adaptive perfectionists would be more likely and maladaptive perfectionists would be less likely to have arrived at clearly delineated identity commitments (i.e., choices about key identity-related concerns, such as career options; Marcia, 1966). The authors administered the HF-MPS and a measure of identity commitment and exploration to 263 Belgian university students. Their subsequent path analysis suggested that adaptive perfectionists pursue their identity goals and

standards in a proactive and effortful manner, which contributes to a more integrated set of identity commitments and clearer self-concept. Their results also suggested that maladaptive perfectionists engage in ruminative exploration regarding their unrealistic identity standards instead of goal-directed action such as proactive exploration and commitment making, which interferes with their development of an integrated and realistic set of identity commitments. These results are in keeping with the previously described results of Page et al. (2008), who in addition to their findings regarding career decision-making self-efficacy, found that maladaptive perfectionism was a powerful predictor of lack of certainty in making a career choice.

Furthermore, career attitude maturity, a construct closely related to vocational identity (Leong & Morris, 1989) has been defined as one's readiness to make thoughtful and fitting career decisions (Savickas, 1999). Based on studies supporting a direct relationship between maladaptive perfectionism and career indecision, Park et al. (2011) proposed that maladaptive perfectionism may also negatively impact career attitude maturity. By administering the Socially Prescribed Perfectionism subscale of the HF-MPS, the Korea Career Stress Inventory (KCSI; Choi, Park, Nam, Lee, & Lee, 2011) and the Career Attitude Maturity Inventory (CAMI; Lee, 1997) to 185 South Korean undergraduate students, the researchers found evidence that, as maladaptive perfectionism increased, so did one's degree of stress caused by anxiety about failing to select a suitable career, leading to lower career attitude maturity.

As a final consideration, Holland's RIASEC theory proposes that a lower level of vocational identity is thought to indicate reduced stability of vocational goals, while a greater level of vocational identity is thought to indicate increased stability of vocational goals (Holland et al., 1980). This supposition has found some empirical support within the research literature. For instance, Santos et al. (2004) examined the relationship between vocational identity and goal

instability, a construct closely related to the ability to engage in goal-directed action, typically as this pertains to academic or career behavior. They found that, in a sample of 375 Portuguese high school students, goal instability was the strongest of several predictors, including gender, age, and self-esteem, in a model that accounted for 31% of the variance in vocational identity.

As mentioned earlier, some studies have provided evidence for the possibility that higher levels of maladaptive perfectionism are associated with reduced goal progress and attainment, while higher levels of adaptive perfectionism are associated with increased goal progress and attainment. Gaudreau and Thompson (2010) found that, in a sample of 397 undergraduate students, adaptive perfectionism was associated with a greater degree of progress towards their most important academic goal of the semester after a period of four weeks. Meanwhile, maladaptive perfectionism was associated with a lesser degree of academic goal progress. Similarly, Powers, Koestner, Zuroff, Milyavskaya, and Gorin (2011) conducted a series of studies revealing that, across goal domains (e.g., weight loss, academics, music performance) and subjective and objective measures, the self-criticism central to maladaptive perfectionism was associated with poorer goal progress. In contrast, after controlling for the contribution of Socially Prescribed Perfectionism (a key facet of maladaptive perfectionism), Self-Oriented Perfectionism (a key facet of adaptive perfectionism) demonstrated modest but consistent direct relationships with goal progress.

Additionally, there is evidence that the dimensions of perfectionism may moderate the relationship between certain variables and goal attainment. For example, Powers, Koestner, and Topciu (2005) found that implementation planning, a process that ordinarily facilitates goal attainment, had a detrimental impact on goal attainment in individuals high in Socially Prescribed Perfectionism. In comparison, individuals high in Self-Oriented Perfectionism not

only demonstrated more progress in achieving their goals but also enhanced goal progress in response to implementation planning exercises. Given findings regarding the relationship between perfectionism type and goal progress and attainment, one may expect maladaptive perfectionists to demonstrate less stability in their vocational goals (consistent with a lower level of vocational identity) and adaptive perfectionists to demonstrate more stability in their vocational goals (consistent with a greater level of vocational identity).

In summary, research has supported the central role played by career exploration and commitment to vocational identity, as well as the impact self-efficacy may have on these important variables. Studies have linked maladaptive perfectionism and adaptive perfectionism with self-efficacy and exploration in a manner suggesting that these perfectionism dimensions may also share an inverse and direct relationship with vocational identity, respectively. This supposition is supported by findings that maladaptive and adaptive perfectionism may be differentially associated with active identity exploration, personal and vocational commitment, and hypothesized correlates of vocational identity, such as stability of vocational goals. The present study aimed to build upon current research by exploring the impact of perfectionism type on vocational identity.

Differentiation

Holland's intention was for the secondary construct of interest differentiation to serve as an estimate of the definition evident in a particular personality or occupational profile (Holland, 1997). According to Reardon and Lenz (1998), the more highly differentiated a client's code, the greater that person's resemblance to the personality traits typically associated with that code. Additionally, differentiation can be considered a measure of the degree to which a person's interests are crystallized (Spokane et al., 2002) and the stability of a person's vocational

aspirations. Poorly differentiated profiles may indicate a lack of experience or maturity; talents and interests in many areas; or confusion and disorganization (Holland et al., 1994). Holland et al. (1994) and Reardon and Lenz (1998) encouraged practitioners to take profile elevation into consideration when interpreting differentiation, as high flat profiles may typify multipotential individuals with an abundance of energy, while low flat profiles may typify individuals struggling with low self-esteem or self-efficacy, self-deprecation, or emotional and psychological issues like depression or identity confusion.

There are multiple methods by which differentiation may be calculated. The differentiation high-low method involves simply subtracting the lowest score in an individual's SDS profile from the highest score in his or her profile. Alternatively, the Iachan Differentiation Index, which averages the second and fourth highest scores in the profile, subtracts this average from the highest score in the profile, and then divides the resulting difference in half, can be used. Because the Iachan Differentiation Index takes into consideration more information about a given profile, it is considered more sensitive to profile shape than other means of calculating differentiation (Holland et al., 1994). Indeed, Alvi, Khan, and Kirkwood (1990) advised using the Iachan Differentiation Index in most circumstances.

According to Holland (1997), the value of differentiation as a construct has been called into question, and Reardon and Lenz (1998) pointed out that, due to comparatively limited research support, it is often considered a "weak" diagnostic sign. Similarly, Nauta (2010) stated that the hypothesized implications of differentiation have received mixed support in the literature. For example, studies have indeed linked differentiation with stability of vocational choices (Holland, 1968; Villwock, Schnitzen, & Carbonari, 1976) and supported the importance of considering interest differentiation in conjunction with profile elevation (Nauta & Kahn, 2007;

Swanson & Hanson, 1986). However, differentiation has been found to be unrelated to psychological adjustment (Buboltz & Woller, 1998; Loughhead & Reardon, 1989; Poreh & Schullen, 1998), and while some studies have supported its relationship to career indecision (Conneran & Hartman, 1993; Hirschi & Läge, 2007), others have not (Lowe, 1981; Slaney, 1980). Alvi et al. (1990) raised the possibility that these mixed findings may be in part due to the different methods used by researchers to calculate differentiation. Nevertheless, researchers and practitioners maintain that interest differentiation is a construct with useful interpretive value (Gati & Ram, 2000; Reardon & Lenz, 1998) and Nauta (2010) identified it as a construct that has received little empirical attention in recent years. The current study sought to add to research in this area by evaluating the impact of perfectionism type on interest differentiation.

Relevant Empirical Findings

According to Holland et al. (1994), the SDS secondary construct of differentiation may have important implications for the crystallization of a client's interests. As stated previously, among other things, undifferentiated profiles are thought to suggest the absence of distinct interests and low self-efficacy or self-esteem. Research has supported the notion that maladaptive perfectionism is negatively associated with self-efficacy, while adaptive perfectionism is positively associated with the construct. SCCT provides a theoretical basis undergirded by considerable empirical evidence for the expectation that self-efficacy beliefs are a key mechanism by which clear and lasting interests are created. Accordingly, one can predict that perfectionism type may impact differentiation.

Nauta (2010) pointed out that differentiation has received little attention in recent research, and indeed, less empirical evidence exists to support a relationship between it and the dimensions of perfectionism, compared to vocational identity. A review of the literature revealed

three studies that examined differentiation in relation to self-efficacy or similar constructs. Ohlde (1979) administered measures of self-esteem and vocational interests to 90 undergraduates and discovered that, compared to individuals with moderate or high levels of self-esteem, individuals with low self-esteem demonstrated significantly poorer interest differentiation. The authors interpreted this finding to mean that interest profiles generated by individuals with low self-esteem may be “suppressed” and therefore less beneficial in terms of helping to identify interests and areas of vocational exploration. Pusateri (1997) found that, in a sample of adults seeking career services, individuals with low flat interest profiles scored lower on measures of confidence and vocational identity than individuals with high flat or highly differentiated interest profiles. Finally, Davis (2007) administered measures of vocational interests and skills confidence in specific interest areas and found that interest differentiation was a significant positive predictor of skills confidence.

As has already been mentioned, studies have supported the notion that adaptive perfectionists may demonstrate greater levels and maladaptive perfectionists may demonstrate lower levels of active exploration. Related to this, some studies have examined differentiation in relation to career exploration, operating on the assumption that more differentiated interests are one outcome of exploration, given the opportunities it allows for learning about one’s preferences. Nauta and Kahn (2007) administered measures of identity status, career decision-making self-efficacy, and interests to 111 undergraduates and learned that differentiation shared a significant inverse relationship with the foreclosure identity status. The authors interpreted this to mean that the more individuals committed to an identity on the basis of limited exploration, the less they resembled a specific Holland code. In fact, they raised the possibility that “the veracity of the hexagonal model of interests is contingent on people’s reporting interests on the

basis of self-exploration” (Nauta & Kahn, 2007, p. 62). Consistent with this finding is Gordon and Meyer’s (2002) discovery that prospective university students with more differentiated interests had more self-knowledge and more developed skills in integrating self-knowledge and occupational knowledge. Similarly, Hirschi (2009) administered measures of interests and career exploration to high school students and found that more self-exploration was related to increases in interest differentiation over time. In contrast, Hirschi and Läge (2007) found no relationship between differentiation and career exploration; however, they did find that students with high undifferentiated profiles engaged in more career exploration than students with low undifferentiated profiles.

Additionally, evidence has already been discussed regarding the expectation that maladaptive perfectionists may demonstrate less stability in their vocational goals and adaptive perfectionists may demonstrate more stability in their vocational goals. Like vocational identity, greater interest differentiation is theoretically associated with greater stability of vocational goals. Studies have provided support for this relationship. Holland (1968) conducted a study intended to test the hypotheses proposed by his RIASEC theory in a sample of college students. He found that, at least among male participants, more differentiated interest profiles were associated with stability of vocational aspirations after a period of one year, even using different methods by which to calculate differentiation. Similarly, Villwock et al. (1976) found that, in a sample of 167 university students, differentiation was the second most important predictor (compared to congruence and consistency) of stability in choice of college major.

Finally, one might expect adaptive and maladaptive perfectionism to share a pattern of relationships with differentiation comparable to vocational identity, given that Holland proposed that vocational identity is a more direct measure of the differentiation and consistency secondary

constructs (Holland, 1985). Several studies have examined differentiation in conjunction with vocational identity. However, the findings of these studies appear mixed.

Several findings have supported the supposition that vocational identity and differentiation are related constructs. For example, Hirschi and Läge (2007) administered measures of interests and career choice readiness to 358 Swiss seventh-graders and found that vocational identity was positively related to interest differentiation. They also found that individuals with high undifferentiated profiles demonstrated a greater sense of vocational identity than individuals with low undifferentiated profiles. Hirschi (2011) found that, in a sample of 341 Swiss eighth-graders, interest differentiation distinguished between Diffusion and Moratorium/Achievement and between Moratorium and Foreclosure identity development statuses. They interpreted this to mean that more differentiated interests related to higher levels of both career exploration and commitment and may thus be an integral component of vocational identity. Im (2011) administered measures of career exploration, identity, and interests to 130 Korean 10th-graders. The researcher learned that profile elevation moderated the relationship between interest differentiation and vocational identity. More specifically, the predictive value of differentiation for vocational identity was greatest for low profile elevations, still significant for moderate profile elevations, and insignificant for high profile elevations. Thus, the researcher concluded that differentiation may be a meaningful predictor of vocational identity for low and moderate profile elevations only. Lastly, as mentioned previously, Nauta and Kahn (2007) found that differentiation predicted approximately 9% of the variance in identity status, with higher levels of differentiation associated with more advanced identity status.

In contrast, a few studies have found differentiation and vocational identity to be unrelated. For example, Leung, Conoley, Scheel, and Sonnenberg (1992) found no association

between vocational identity and differentiation in a sample of 464 gifted high school students. Similarly, Gottfredson and Jones (1993) found no relationship between the two constructs in 250 female and 495 male Navy recruits.

In summary, several studies have found positive relationships between differentiation and self-efficacy, career exploration, stability of vocational goals, and vocational identity. Such studies have provided support for the notion that more differentiated interest profiles indicate a clearer and more stable sense of one's interests, abilities, and goals, which for reasons discussed previously may be inversely associated with maladaptive perfectionism and directly associated with adaptive perfectionism. However, because low differentiation in highly elevated profiles can also indicate multipotentiality, the nature of any group differences between adaptive and maladaptive perfectionists with respect to differentiation is difficult to predict. This study aimed to build upon existing research by exploring the impact of perfectionism type on interest differentiation.

Critical Analysis of the Literature

Through a review of the literature relevant to the present study, it is evident that perfectionism is a multidimensional construct that holds the potential to impact many domains of life. Research has supported the notion that it is comprised of a maladaptive dimension that is consistently correlated with indices of poor adjustment and negatively correlated or uncorrelated with indices of positive adjustment, as well as an adaptive dimension that demonstrates the opposite pattern of relationships. Furthermore, researchers have acknowledged the career relevance of adaptive and maladaptive perfectionism, and several studies have substantiated adaptive perfectionism as a negative predictor of career indecision and maladaptive perfectionism as a positive predictor of career indecision.

It is also apparent that SCCT and Holland's RIASEC theory represent sound and relevant theories of career development and choice, in that they propose clear constructs that can be measured and that allow for the testing of hypothesized relationships. A substantial body of research exists to support relationships between self-efficacy and interests, career exploration, and persistence in the pursuit of vocational goals. Research on the primary and secondary constructs of Holland's theory has also provided support for a number of the predicted implications of these variables. More specifically, there is evidence suggesting that a more developed vocational identity is associated with a greater degree of self-efficacy, career exploration, career identity commitment, and stability of vocational goals. Similarly, there is support for the hypotheses that more differentiated interests are associated with greater self-efficacy or self-esteem, career exploration or commitment, and stability of vocational goals. Providing evidence for the notion that vocational identity and differentiation may measure similar constructs, several studies have detected a relationship between the two variables, particularly among individuals with low-to-moderate profile elevations.

Studies have also supported an association between higher levels of adaptive perfectionism and greater general and domain-specific self-efficacy, proactive and problem-focused responses to challenges and crises, and goal progress and attainment. Meanwhile, higher levels of maladaptive perfectionism have been linked to higher levels of avoidant coping, such as denial and disengagement, and lower levels of self-efficacy and goal progress and attainment. Maladaptive perfectionism appears directly related to a ruminative exploratory style and inversely related to ego identity development, clarity of self-concept, career maturity, and career choice certainty. Meanwhile, adaptive perfectionism appears directly associated with more active identity exploration, ego identity development, and clarity of self-concept. Such findings support

the notion that perfectionism type may impact career decision-making variables such as career self-efficacy, vocational identity, and interest differentiation. However, these relationships have never been empirically tested.

Related to this, a number of content gaps and methodological issues are apparent in the above literature. First, despite Slaney and Ashby's (1996) finding that "professional and academic work" was consistently described by a criterion group of perfectionists as the area of life most impacted by their perfectionistic tendencies and other researchers' suggestions that perfectionism and career concerns may be related (Post, 1989; Slaney et al., 1995), little research has examined perfectionism within a career decision-making context. This information is important, given that some studies have substantiated a relationship between perfectionism and career indecision, and perfectionism may have serious implications for the success of career interventions. For example, there is evidence that maladaptive perfectionism may negatively impact personal counseling outcomes. Several studies have found that maladaptive perfectionism is associated with poorer response to treatment (Blatt et al., 1995; Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998), possibly through the mediating variables of interference with the therapeutic relationship (Zuroff et al., 2000) and poorer social networks (Shahar, Blatt, Zuroff, Krupnick, & Sotsky, 2004).

Secondly, very few studies have examined how adaptive perfectionists and maladaptive perfectionists may compare to both one another and non-perfectionists on variables related to career decision making. A review of the perfectionism and career decision-making literature revealed only two studies of this sort. Frederikson (2010) found that maladaptive perfectionists and non-perfectionists demonstrated comparable career choice anxiety and pervasive indecisiveness. Similarly, Ganske and Ashby (2007) observed that the two groups possessed

comparable levels of career decision-making self-efficacy. These results are inconsistent with findings suggesting that maladaptive perfectionism is a positive predictor of career indecision and a negative predictor of career decision-making self-efficacy. However, Frederikson (2010)'s analyses used facet scores thought to be unrelated to either adaptive or maladaptive perfectionism (e.g., Organization). Additionally, both studies employed cluster analysis to identify groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists within their samples rather than the cutoff scores suggested by Rice and Ashby (2007) on the basis of more sophisticated analytical procedures, a much larger college student sample, and careful cross-validation through subsequent group comparisons on several measures. Clearly, more research comparing adaptive perfectionists, maladaptive perfectionists, and non-perfectionists on career decision-making variables is needed.

Third, despite the empirical support SCCT has received, one criticism that has been leveled at the theory is the dearth of studies examining the contribution of person variables, such as personality characteristics or dispositions. SCCT holds that person inputs can influence other SCCT variables and career development outcomes; however, beyond studies considering the impact of age, gender, and ethnicity, little research has addressed these person variables (Betz, 2007; Lent et al., 2002; Schaub, 2003). Similarly, of the considerable research testing the hypotheses of Holland's RIASEC theory, comparatively little has examined the impact of individual differences on secondary constructs (Bullock, 2006). Numerous studies have explored the relationships between personality traits, particularly as operationalized by the Big Five model (McCrae & Costa, 1997), with the Holland RIASEC types. These studies have found correlations between certain traits and RIASEC efficacy and interest themes. Researchers have pointed out that a useful direction of research and theory is the ongoing integration of personality with

Holland interests and confidence and identified differentiation and vocational identity as constructs that remain under-studied (Nauta, 2010).

Finally, little research has examined how individual differences, such as personality characteristics or dispositions, may influence SDS responses. This is an interesting question, in light of findings like those of Ohlde (1979), who determined that self-esteem was related to the frequency of like and dislike responses on an interest inventory, and subsequently, interest differentiation and the usefulness of inventory results. Sampson, Shy, Hartley, Reardon, and Peterson (2009) found that item response indecision on the SDS shared an inverse relationship with differentiation. Such information is important, given that theoretically, vocational identity and differentiation hold important implications for a client's career decision-making readiness, and career decision-making readiness may predict the extent and effectiveness of individuals' use of interest inventories (Toman & Savickas, 1997).

A number of methodological issues are also apparent in the extant literature. Stoeber and Otto (2006) stated that studies of adaptive and maladaptive perfectionism employing a dimensional approach may have demonstrated inconsistent results due to overlap in the facets associated with each dimension. In other words, because adaptive and maladaptive dimensions of perfectionism tend to be somewhat correlated, each can act to suppress the relationship between the other and criterion variables in regression analyses (Hill et al., 2010). Stoeber and Otto (2006) suggested that using cluster analysis or dichotomization of facet scores to identify and then compare groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists may be less susceptible to issues related to such overlap. However, Rice and Ashby (2007) pointed out that the use of cluster analysis can contribute to inconsistent results due to insufficient sample sizes or differing interpretations of the rules designed to identify the

appropriate number of clusters within a sample. These concerns served as the basis for their development of empirically supported cutoff scores for identifying adaptive perfectionists, maladaptive perfectionists, and non-perfectionists among college student samples.

Another methodological issue identified by Stoeber and Otto (2006) is that studies examining adaptive and maladaptive perfectionism have been inconsistent in the conceptualization of these constructs. More specifically, researchers have used multiple combinations of subscales from the F-MPS, HF-MPS, and APS-R, among other measures, in their assessment of perfectionism dimensions, some of which are thought to be representative of neither adaptive perfectionism nor maladaptive perfectionism (e.g., Organization and Order). Finally, research examining the relationships between differentiation, vocational identity, and other variables has been criticized for using small, homogenous samples (Holland, 1997; Swanson & Gore, 2000).

The current study intended to address the aforementioned content gaps and methodological limitations in the following ways. First, it applied multivariate analysis to explore group differences between adaptive perfectionists, maladaptive perfectionists, and non-perfectionists with respect to ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. It integrated Stoeber and Otto's (2006) recommendations to utilize comparison groups of perfectionists and key facets of adaptive and maladaptive perfectionism in order to operationalize these constructs. Furthermore, Rice and Ashby's (2007) empirically supported cutoff scores were used to categorize participants as either adaptive perfectionists, maladaptive perfectionists, or non-perfectionists. By using SDS Competencies and SDS Self-Estimates as measures of ipsative and relative career self-efficacy, this study added to the literature related to the validity of these scales as embedded measures of self-efficacy

corresponding with each Holland type. It also added to the literature examining the impact of individual differences on social cognitive variables and Holland's secondary constructs. Finally, it targeted a sample allowing for adequate power and maximal generalizability and employed measures that have demonstrated strong evidence of reliability and validity.

Research Question

On the basis of the literature reviewed, the present study posed the following research question: What is the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students?

Operational Definition of Terms

The following definitions are provided to assist the reader in better understanding key terms used in the current study:

Adaptive perfectionism is a personality trait characterized by the tendency to strive toward high performance or achievement standards in the absence of a corresponding tendency toward overly critical self-evaluation (Stoeber & Otto, 2006).

Career self-efficacy refers to an individual's beliefs regarding his or her ability to perform tasks related to a particular vocational area (Lent & Brown, 2006).

Interest differentiation is the degree of definition or distinctiveness inherent to a particular personality or interest profile (i.e., the degree to which an individual or environment resembles a particular personality or interest type and not others; Holland et al., 1994).

Ipsative career self-efficacy refers to an individual's beliefs regarding his or her ability to perform tasks related to a particular vocational area, in comparison to his or her perceived abilities in other vocational areas (Bullock-Yowell et al., 2011).

Maladaptive perfectionism is a personality trait characterized by the tendency to strive toward high performance or achievement standards and to be overly critical in evaluations of one's behavior (Stoeber & Otto, 2006).

Non-perfectionists are individuals who set low to average standards for performance or achievement (Rice & Ashby, 2007).

Perfectionism is a personality characteristic typified by a tendency to set and strive toward extremely, often unrealistically, high standards for performance and achievement. It can be either adaptive or maladaptive in nature (Stoeber & Otto, 2006).

Perfectionism type refers to an individual's classification as an adaptive perfectionist, maladaptive perfectionist, or non-perfectionist.

Relative career self-efficacy refers to an individual's beliefs regarding his or her ability to perform tasks related to a particular vocational area, in comparison to the perceived abilities of his or her peers in the same vocational area (Bullock-Yowell et al., 2011).

Vocational identity is the degree to which an individual possesses a clear and consistent sense of his or her aspirations, interests, and abilities (Holland et al., 1980).

CHAPTER 3

METHODOLOGY

The purpose of the present study was to investigate the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students. This chapter begins with a statement of the hypotheses associated with the current study's research question and a discussion of its research design. It identifies this study's variables of interest and the instruments selected to measure these, then addresses the study's participants, data analysis, and delimitations. The chapter concludes with a discussion of the procedures utilized for data collection.

Hypotheses

Based upon a review of relevant literature, the present study posed the following research question: What is the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students? The following hypotheses, stated in the alternative form, were used to address this research question. Because existing research does not support directional hypotheses regarding the relationship between perfectionism type and interest differentiation, the associated hypothesis (Hypothesis 5) was stated in the null form.

1. There will be a significant multivariate effect of perfectionism type on a linear composite of ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation.
2. There will be a significant relationship between perfectionism type and ipsative career self-efficacy. More specifically, adaptive perfectionists will demonstrate significantly greater ipsative career self-efficacy than maladaptive perfectionists and non-

perfectionists. Maladaptive perfectionists will demonstrate significantly lower ipsative career self-efficacy than adaptive perfectionists and non-perfectionists.

3. There will be a significant relationship between perfectionism type and relative career self-efficacy. More specifically, adaptive perfectionists will demonstrate significantly greater relative career self-efficacy than maladaptive perfectionists and non-perfectionists. Maladaptive perfectionists will demonstrate significantly lower relative career self-efficacy than adaptive perfectionists and non-perfectionists.
4. There will be a significant relationship between perfectionism type and vocational identity. More specifically, adaptive perfectionists will demonstrate significantly greater vocational identity than maladaptive perfectionists and non-perfectionists. Maladaptive perfectionists will demonstrate significantly lower vocational identity than adaptive perfectionists and non-perfectionists.
5. There will be no significant relationship between perfectionism type and interest differentiation. More specifically, adaptive perfectionists, maladaptive perfectionists, and non-perfectionists will demonstrate similar levels of interest differentiation.

Research Design

The current study utilized a quasi-experimental, causal-comparative design. Such a design was appropriate for use in this study, given that perfectionism type was the independent variable and pre-existing groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists were identified on the basis of cutoff scores on a measure of perfectionism. These groups were then compared with respect to their ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. Due to the absence of random assignment, quasi-experimental designs do permit participant variables to operate as a threat to

internal validity. However, because perfectionism type is an inherent characteristic that does not permit random assignment to different conditions, a quasi-experimental design was an acceptable means by which to examine it (Heiman, 2002).

Many studies of perfectionism type have also utilized a descriptive, correlational design in which facets of perfectionism are combined to form adaptive and maladaptive dimensions of the construct. A quasi-experimental, causal comparative design was the preferred design of the present study, because it allowed comparison of distinct groups of perfectionists with less overlap between facets associated with adaptive and maladaptive perfectionism. Such overlap has been linked with inconsistent findings in perfectionism studies that have used a correlational design (Stoeber & Otto, 2006).

Variables

The current study's variables of interest included perfectionism type, ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. This section addresses each of these variables. A brief description of each variable is provided and the means by which it was operationalized are identified.

Perfectionism Type

Perfectionism is commonly considered a personality style typified by the tendency to set extremely, often unrealistically, high performance or achievement standards. Considerable research has supported the existence of two forms of perfectionism. Adaptive perfectionism is characterized by the pursuit of high standards, in the absence of excessive self-criticism. Maladaptive perfectionism is characterized by the same pursuit of high standards in conjunction with overly critical evaluations of one's behavior (Stoeber & Otto, 2006). For the purposes of this study, perfectionism was conceptualized categorically. In other words, adaptive

perfectionists, maladaptive perfectionists, and non-perfectionists within the sample were identified on the basis of score profiles on the Revised Almost Perfect Scale (APS-R; Slaney et al., 2001). The procedure for determining the category membership of each participant will be described in the discussion of the present study's measures.

Career Self-Efficacy

Career self-efficacy refers to an individual's beliefs about his or her capabilities to accomplish the tasks related to a particular occupational area (Lent & Brown, 2006). The Competencies and Self-Estimates scales of the Self-Directed Search Form R (SDS; Holland et al., 1994) can be considered a measure of self-efficacy beliefs regarding the tasks and activities associated with each RIASEC area (Gottfredson, 2002). More specifically, the Competencies scale can be considered a measure of ipsative career self-efficacy (i.e., one's beliefs about his or her ability to perform tasks related to a particular vocational area, in comparison to his or her perceived abilities in other vocational areas). The Self-Estimates scales can be considered a measure of relative career self-efficacy (i.e., one's beliefs about his or her ability to perform tasks related to a particular vocational area, in comparison with the perceived abilities of his or her peers in the same vocational area; Bullock-Yowell et al., 2011). In the current study, ipsative career self-efficacy was operationally defined as the score on the Competencies scale of the SDS Form R Internet (Holland et al., 1999) corresponding with each participant's high-point RIASEC code. Relative career self-efficacy was operationally defined as the score on the Self-Estimates scales of the SDS Form R Internet corresponding with each participant's high-point RIASEC code.

Vocational Identity

Holland (1997) defined vocational identity as the clarity and stability of an individual's interests, skills, and aspirations. In this study, vocational identity was operationally defined as the total score on the Vocational Identity scale (VIS). This scale is one of the three subscales of the My Vocational Situation (MVS; Holland et al., 1980).

Interest Differentiation

Holland et al. (1994) defined interest differentiation as the degree of definition or distinctiveness inherent to a particular interest or occupational profile. It is thought to be a measure of crystallization of interests. There are a variety of methods by which to calculate interest differentiation. In the present study, interest differentiation was operationally defined as the differentiation score achieved on the SDS Form R Internet using the Iachan Differentiation Index (Iachan, 1984). This method was chosen due to its basis in theory and sensitivity to profile shape (Alvi et al., 1990).

Measures

The APS-R, SDS Form R Internet, and VIS from the MVS were the measures used in the current study. In addition, a demographic form collecting descriptive information about each participant was utilized. In this section, a description of the purpose and structure of each of this study's measures are provided, along with information concerning its administration and scoring, standardization, and reliability and validity evidence.

Participant Information Form

A participant information form (see Appendix A) was administered, collecting demographic information about each participant. More specifically, information pertaining to each participant's academic major, academic status, age, gender, and ethnic group was gathered.

Additionally, the participant information form contained the Occupational Alternatives Questionnaire (OAQ; Zener & Schnuelle, 1972; modified by Slaney, 1980) and the Satisfaction with Choice Item (Zener & Schnuelle, 1972; modified by Holland, Gottfredson, & Nafziger, 1975). The former is a two-part measure of career decision status asking participants to list all occupations they are currently considering and then identify a top choice from among these options (alternatively, participants can indicate that they are undecided). The latter is used to determine individuals' satisfaction with the top choice identified on the OAQ. All information gathered using the participant information form was utilized for descriptive purposes only and to evaluate equivalency of identified perfectionism groups on important demographic variables prior to data analysis.

Revised Almost Perfect Scale

Statement of purpose. The APS-R (see Appendix B) is a 23-item self-report instrument designed to measure adaptive and maladaptive dimensions of perfectionism. Along with the F-MPS and the HF-MPS, it represents one of the most popularly utilized measures of perfectionism (Stoeber & Otto, 2006).

Scales and subscales. The APS-R yields scores on three subscales. The High Standards subscale is comprised of seven items that are thought to measure high personal standards and performance expectations (e.g., "If you don't expect much out of yourself, you will never succeed"). The Discrepancy subscale is comprised of 12 items (e.g., "My best just never seems to be good enough for me") that are intended to measure "the perception that one consistently fails to meet the high standards that one has set for oneself" (Slaney et al., 2001, p. 69). Finally, the Order subscale is comprised of four items that measure a preference for order and organization (e.g., "Neatness is important to me"; Slaney et al., 2001). As discussed in the

following section, the High Standards and Discrepancy subscales were used in the present study to divide the sample into groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. Order subscale items were administered but not used for categorization purposes because this subscale has not been found necessary for distinguishing between groups of perfectionists (Rice & Ashby, 2007; Stoeber & Otto, 2006).

Administration and scoring. The APS-R requires approximately five minutes to complete. Individuals respond to each item using a seven-point Likert scale, where 1 corresponds with *Strongly Disagree* and 7 corresponds with *Strongly Agree*. All items are positively keyed, with higher scores representing greater degrees of high performance or achievement standards, sense of discrepancy, and preference for order. Total scores for each subscale are calculated by summing the scores of items comprising that subscale (Slaney et al., 2001). According to recommendations by Rice and Ashby (2007), individuals who achieve a score less than 42 on the High Standards subscale are classified as non-perfectionists. Those who achieve a score of 42 or higher are classified as perfectionists. Among individuals identified as perfectionists, those with a score of less than 42 on the Discrepancy subscale are classified as adaptive perfectionists, while those with a score of 42 or greater on the Discrepancy subscale are classified as maladaptive perfectionists.

Standardization. APS-R normative data was obtained from a sample of 1,537 undergraduate students at two public state universities in the southeastern United States. The sample was comprised of 1,071 females (70%) and 462 males (30%). White/European Americans represented 65% of the sample ($n = 987$), while Black/African Americans represented 10% ($n = 155$), Asian Americans represented 8% ($n = 117$), Latinos/Latinas represented 6% ($n = 89$), and Native Americans represented 4% ($n = 53$). Four percent of the sample identified as

mixed ethnicity, 3% identified as “other,” and 1% did not provide race or ethnic data. The standardization sample demonstrated an age range of 18 to 51 years ($M = 19.43$, $SD = 2.77$; Rice & Ashby, 2007). Given that the APS-R was normed on a large sample of undergraduate students at public state universities in the southeastern United States, it was deemed an appropriate measure for use with the current study’s sample.

Reliability. In initial reliability studies, the APS-R demonstrated internal consistency coefficients ranging from .82 to .91. More specifically, for the Order, High Standards, and Discrepancy subscales, coefficient alphas were .82, .85, and .91, respectively (Slaney et al., 2001). Test-retest reliability for this measure has been shown to range from .72 to .83 at four weeks (Grzegorek, Slaney, Franze, & Rice, 2004) and from .76 to .87 at eight to ten weeks (Rice & Aldea, 2006). Accordingly, the APS-R appears to demonstrate evidence of acceptable levels of internal consistency and stability.

Validity. Regarding the content validity of the APS-R, initial item development of the original version of the measure was based on a review of theoretical, clinical, and empirical literature regarding key components of perfectionism. The researchers hoped to create items that captured both positive and negative aspects of the construct (Johnson & Slaney, 1996). Their subsequent revision of the measure was intended to eliminate items that highlighted causes or effects of perfectionism, rather than its key characteristics; identify the defining feature of maladaptive perfectionism; and develop items that captured it. The researchers based their item modifications on available research using their original measure, F-MPS and HF-MPS scale development research (Frost et al., 1990; Frost et al., 1993; Hewitt & Flett, 1991), and interview-based studies using criterion groups of perfectionists (Slaney & Ashby, 1996; Slaney et al., 2000). This resulted in the elimination of their Anxiety, Procrastination, and Relationship

Difficulties subscales and the addition of their Discrepancy subscale. The factor structure of the APS-R has been supported by subsequent exploratory and confirmatory factor analysis (Slaney et al., 2001; Suddarth & Slaney, 2001).

There is also considerable evidence for the convergent validity of the APS-R. The High Standards and Discrepancy subscales appear correlated with subscales of other perfectionism measures that are thought to tap the adaptive and maladaptive aspects of the construct, respectively. Slaney et al. (2001) found that the High Standards subscale shared direct correlations with the Personal Standards subscale of the F-MPS and the Self-Oriented Perfectionism subscale of the HF-MPS. The Discrepancy subscale was found to be directly correlated with the Concern Over Mistakes and Doubts About Action subscales of the F-MPS, as well as the Socially Prescribed Perfectionism subscale of the HF-MPS. In support of the measure's concurrent validity, Slaney et al. (2001) found a moderate direct correlation between the Discrepancy subscale of the APS-R and a measure of depression and moderate inverse correlations between that subscale and measures of self-esteem and GPA. The High Standards subscale, meanwhile, demonstrated a modest direct correlation with self-esteem and a moderate direct correlation with GPA. Similarly, Rice and Ashby (2007) demonstrated that groups formed on the basis of the cutoff scores described earlier demonstrated predictable differences on measures of perfectionism, psychological functioning, and academic functioning.

Summary of evidence of appropriateness. There is strong evidence in favor of the utility and stability of the APS-R as a measure of both adaptive and maladaptive dimensions of perfectionism in college students. Studies have provided considerable support for its content, factorial, convergent, and concurrent validity. Overall, the APS-R demonstrates comparable or better evidence of psychometric soundness than other measures of perfectionism, in addition to

providing well-supported cutoff scores that allow for convenient classification of individuals into adaptive perfectionist, maladaptive perfectionist, and non-perfectionist groups.

Self-Directed Search

Statement of purpose. The SDS Form R is a measure of vocational personality in high school students, college students, and adults, and has been acknowledged as one of the most widely utilized inventories of its kind (Spokane & Holland, 1999). It was developed to increase the efficiency of the career counseling process and to provide a career counseling experience for individuals with no counselor. The SDS Form R was initially published in 1970 and went through three subsequent revisions, the most recent in 1994 (Holland et al., 1994). It is available in various formats, including paper-and-pencil, personal computer, and Internet versions. The present study used the SDS Form R Internet (Holland et al., 1999), which is the most recently published version of the measure.

Scales and subscales. The SDS Form R Internet is comprised of five sections. The Daydreams section asks respondents to list up to eight vocational aspirations. The Activities section invites respondents to identify activities they would enjoy doing pertaining to each of the six RIASEC areas. The Competencies section asks individuals to identify activities they can do well related to each of the six RIASEC areas. The Occupations section asks respondents to identify occupations that interest them related to each of the six RIASEC areas. Finally, the Self-Estimates section asks respondents to rate themselves on abilities pertaining to each of the six RIASEC areas, compared to same-age peers. Scores on all of these sections are used to calculate the individual's interest summary code, as well as secondary constructs such as interest differentiation.

Administration and scoring. The SDS Form R Internet is a self-administered, self-scored, and self-interpreted measure. Individuals respond dichotomously (e.g., *Like* or *Dislike*, *Yes* or *No*) to items in all of the previously described sections other than Daydreams and Self-Estimates (which will be discussed below in more detail). An aspirations summary code is derived from codes of aspirations listed in the Daydreams section using a weighted sum technique. In other sections, positive endorsements are totaled for each RIASEC type, and an individual's three highest RIASEC scores indicate the three letters of his or her interest summary code. On the basis of an individual's responses, an interpretive report is produced that discusses the theory behind the inventory; personality characteristics associated with one's code; recommendations about the use of scores and codes, as well as effective career planning; and lists of occupational titles, fields of study, and leisure options corresponding with one's code. The SDS Form R Internet also provides respondents with information about locating a career counselor and links to websites where career assistance and information can be found. The average administration time of the SDS Form R Internet in a sample of college students was reported to be 14 minutes, 17 minutes less than for the paper-and-pencil version (Lumsden, Sampson, Reardon, Lenz, & Peterson, 2004).

One focus of the current study was ipsative career self-efficacy, as measured by the SDS Competencies scale. In the SDS Competencies section, 11 activities are listed within each of the six RIASEC types. Individuals respond to each with "Yes," if it represents an activity they can do well or competently and "No" if it represents an activity they have never performed or perform poorly. Scores on this scale are calculated for each RIASEC type by summing the number of "Yes" responses, and individuals can obtain a score of 0 to 11 on each RIASEC type. For the purposes of this study, ipsative career self-efficacy was operationalized as the SDS

Competencies score corresponding with the respondent's high-point RIASEC code. Bullock-Yowell et al. (2011) pointed out that because SDS Competencies are compared internally with respect to one another, these ratings can be considered ipsative in nature.

A second focus of the present study was relative career self-efficacy, as measured by the SDS Self-Estimates scales. In the SDS Self-Estimates section, respondents rate themselves on a scale of 1 through 7 (1 = *Low*, 4 = *Average*, and 7 = *High*) with respect to generic abilities associated with the six RIASEC types. They are prompted in the section instructions to avoid rating themselves similarly on each ability. Ratings are made regarding two different abilities for each RIASEC type (e.g., mechanical ability and manual skills for the Realistic type). Thus, Self-Estimate scores on each RIASEC dimension can range from 2 to 14. For the purposes of the current study, relative career self-efficacy was operationalized as the SDS Self-Estimates score corresponding with the respondent's high-point RIASEC code. Because the instructions ask respondents to rate themselves on each ability "as you really think you are when compared with other persons your own age," their ratings on the SDS Self-Estimates scale can be considered relative in nature (Bullock-Yowell et al., 2011).

A third focus of this study was interest differentiation. There are several methods by which to calculate differentiation, one of which is the Iachan Differentiation index (Iachan, 1984). This approach averages the second and fourth highest scores in the interest profile, subtracts this average from the highest score in the profile, and then divides the resulting difference in half (Holland et al., 1994). For the purposes of the present study, the Iachan Differentiation index was used to calculate interest differentiation, as it is based on a theoretical rationale and considered to be more sensitive to profile shape (Holland et al., 1994).

Standardization. The 1994 version of the SDS Form R was normed on a sample of 2,602 high school students, college students, and working adults from 25 states and Washington, D.C. Of these individuals, 61% were female ($n = 1,600$) and 39% were male ($n = 1,002$). The sample ranged in age from 17 to 65 years ($M = 23.5$). Its ethnic composition was as follows: 75% White/European American, 8% Black/African American, 7% Hispanic/Latino/Latina, 4% Asian American, 1% Native American, and 5% "Other." The data were collected from high schools, community colleges, universities, and a variety of additional sources that included career counseling centers, private practices, and employment services. No substantial or meaningful differences regarding high-point codes were found based on age or ethnicity. It is important to note that college students comprised approximately 43% of the standardization sample, making the SDS an appropriate measure for this group of individuals (Holland, Fritzsche, & Powell, 1997). Lumsden et al. (2004) found evidence supporting the equivalency of the SDS Form R pencil-and-paper version and the SDS Form R Internet.

Reliability. Holland et al. (1997) found KR-20 coefficients ranging from .90 to .94 for the summary scales and from .72 to .92 for each of the separate sections of the paper-and-pencil version of the SDS Form R. They identified the KR-20 coefficients of the SDS Competencies scale as .72 to .84 among college men and women but did not report internal reliability estimates for the SDS Self-Estimates scale. Barak and Cohen (2002) found that internal consistency for the paper-and-pencil version and Internet version of the SDS Form R were very similar, both yielding mean alpha coefficients of .90. Holland et al. (1997) noted that, at 4 to 12 weeks, test-retest reliability coefficients for the summary scales ranged from .76 to .89. Meanwhile, Barak and Cohen (2002) observed test-retest reliability coefficients for all scales averaging .94 at six weeks.

Validity. According to Holland et al. (1997), the face and content validity of all SDS items and scales can be seen in the content and format of items. More specifically, these are stated positively and directly, require only minimal interpretation, and are clearly related to the specific scales they comprise (e.g., Realistic scale items are observably realistic in nature). Additionally, items are based on recognized career knowledge, in that the abilities, competencies, and preferences in a particular RIASEC area have repeatedly been found to share a relationship. The SDS Competencies scales were developed on the basis of scales known to predict nonacademic accomplishments. Meanwhile, the Self-Estimates scales were developed to include the two self-ratings most distinctly related to each RIASEC type. For the 1994 edition of the SDS Form R, decisions to retain existing items or add new items were based on the extent to which they were correlated with only their intended summary scale, demonstrated sufficient internal consistency, and demonstrated sufficient endorsement by both males and females in a diverse sample.

Findings within the normative sample provided additional validity evidence for the SDS Form R. In support of its convergent validity, Holland et al. (1997) found that all SDS scales corresponding with a particular RIASEC type demonstrated a clear set of convergent-discriminant correlations with SDS scales corresponding with other RIASEC types. In addition, Savickas et al. (2002) compared the SDS Form R to four other measures of vocational interests and found that matched scales demonstrated moderate correlations and evidence of convergent and discriminant validity. Holland et al. (1997) also discovered that participants' high-point summary codes were consistent with the first-letter code of their present vocational aspiration or occupation. Agreement of this kind occurred 59% of the time for men and 61% of the time for women aged 19 to 25. Agreement was even more frequent among older individuals. This finding

constitutes evidence of the SDS Form R's concurrent validity. Even prior to its most recent revision, Osipow (1993) reported that several hundred studies on the SDS have been carried out, and their results have generally been positive.

Holland et al. (1994) cited a handful of studies providing predictive and concurrent validity evidence for the SDS Competencies and Self-Estimates scales specifically. For example, Gottfredson and Holland (1975) found the Competencies scale to demonstrate evidence of low to moderate predictive validity over a period of one year among a sizeable college student sample. Kelso, Holland, and Gottfredson (1977) found that scores on the Competencies and Self-Estimates scales were significantly correlated with Armed Services Vocational Aptitude Battery scores (ASVAB; United States Department of Defense, 1994). Additionally, Abe and Holland (1965a, 1965b) demonstrated that certain SDS Self-Estimates ratings were able to distinguish among students who aspired to different fields or had different VPI profiles. Savickas et al. (2002) found evidence for the convergent validity of the SDS Competencies and Self-Estimates scales as measures of self-efficacy in RIASEC tasks. According to them, these scales demonstrated moderate to strong direct correlations with other vocational self-ratings scales meant to measure similar constructs. The researchers also reported that the SDS Competencies and Self-Estimates scales met their criteria for support of good discriminant validity.

Summary of evidence of appropriateness. Available literature seems to indicate substantial evidence supporting the reliable and valid use of the SDS Form R as a measure of vocational interests among college students. Additionally, there is evidence that the paper-and-pencil version of this measure is equivalent to the SDS Form R Internet with respect to psychometric soundness. Finally, research has supported the SDS Competencies and Self-Estimates scales as stable and valid measures of self-efficacy with respect to RIASEC tasks.

Vocational Identity Scale

Statement of purpose. The VIS (see Appendix C) comes from the MVS, a 26-item measure intended for use in career planning with a wide variety of individuals. The VIS was designed to assess the clarity and stability of interests, skills, and aspirations in high school students, college students, and adults (Holland et al., 1980).

Scales and subscales. The MVS measures three areas related to career decision making: Vocational identity, need for occupational information, and perceived occupational barriers or obstacles. The VI subscale itself is comprised of 18 items assessing a clear and consistent grasp of one's career goals, interests, personality, and abilities. Sample items include, "I am uncertain about the occupations I could perform well" and "I am not sure of myself in many areas of life" (Holland et al., 1980). Only the VI subscale of the MVS was utilized in the current study.

Administration and scoring. The MVS is a self-report instrument, can be administered to both groups and individuals, and takes approximately 10 minutes or less to complete and score. Individuals can respond to each item on the VI subscale by choosing "True" or "False." "True" answers are assigned a points value of zero, while "False" answers are assigned a points value of one. A total VI score (which can range from 0 to 18) is achieved by summing "False" responses. Higher scores indicate an individual with a greater level of vocational identity and subsequently more assured and unencumbered career decision making (Holland et al., 1980).

Standardization. The MVS was developed using a sample of 496 high school sophomores. It was then validated using a new sample, comprised of 824 high school students, college students, full-time workers, graduate students, and faculty members. This sample ranged in age from 16 to 69 years ($M = 25.4$ for males; $M = 23.0$ for females). Educational level ranged from high school through doctoral-level study or completion. No information was provided,

regarding the proportions of different ethnic groups represented in the sample. However, the mean VI subscale score for male college students in this normative sample was 15.86 ($SD = 5.20$), while the mean VI subscale score for female college students was 14.34 ($SD = 5.34$; Holland et al., 1980). Additionally, Reardon, Lenz, and Strausberger (1996) completed a study that provides further support for the utility of the MVS with college students.

Reliability. During initial scale development, Holland et al. (1980) found that the VI subscale demonstrated KR-20 scores of .86 (for high school students) to .89 (for college students), suggesting good internal consistency. Holland et al. (1993) reported the test-retest reliability of the VI subscale as ranging from .63 to .93 at one to two weeks over a handful of different studies. In a sample of undeclared college freshmen, Lucas et al. (1988) found test-retest reliability to be .64 at three to five months. Similarly, Holland et al. (1993) cited a study that found test-retest reliability to be .64 at one year.

Validity. According to Holland et al. (1980), the diagnostic scheme utilized in the MVS emerged from research concerning counseling diagnostic schemata; literature on indecision; and studies examining the impact of interest inventories, career programs, and workshops on client outcomes. Holland et al. (1993) explained that, more specifically, item development for the VI subscale was based upon Holland and Holland's (1977) research about career indecision and Erikson's (1963) theory of identity development. Although some studies have supported a three- or four-factor structure for the VI subscale (Fuqua & Newman, 1989), larger scale factor analytic studies have supported the VI subscale's single-factor model (Holland et al., 1993; Toporek & Pope-Davis, 2001).

Holland et al. (1980) found evidence supporting the MVS' concurrent validity. More specifically, the researchers noted small to moderate correlations in the predicted direction

between each of the measure's three subscales and participants' age, as well as quantity and range of vocational aspirations. Similarly, Lucas et al. (1988) discovered that scores on the MVS were generally lower for individuals with no defined vocational direction, such as undeclared freshmen, adults pursuing career counseling, and displaced homemakers. The VI subscale has also been found to be directly correlated with having had positive guidance experiences and having attended a career-oriented school (Nicholas & Pretorius, 1994). The convergent and discriminant validity of the measure has also received supporting evidence. Solberg, Good, Fischer, Brown, and Nord (1995) found that the VI subscale was strongly correlated with measures of career self-efficacy and career decision-making self-efficacy. Among college students, Leong and Morris (1989) found the VI subscale to be unrelated to external locus of control; inversely related to social anxiety, ambiguity intolerance, and intuitive and dependent decision-making styles; and directly related to rational decision-making style and career maturity.

Summary of evidence of appropriateness. Overall, there is substantial support for the administration of the VI subscale as an adequately stable measure of vocational identity appropriate for use with college students. It has accumulated evidence of strong content, factorial, concurrent, convergent, and discriminant validity. Its apparent psychometric soundness, brevity, and ease of scoring and administration made it a desirable measure for use in this study.

Participants

This section briefly describes the sample utilized by the present study. More specifically, the sampling procedures used in the current study are addressed. Following this, the population to which findings are expected to generalize is discussed.

Sampling

The sample for this study was comprised of undergraduate students from a public research university in the southeastern United States. More specifically, these individuals were recruited through a data pool affiliated with the university's College of Education. As such, they represented freshman through senior-level students enrolled in a variety of courses across the Educational Psychology and Learning Systems, Educational Leadership and Policy Studies, and School of Teacher Education departments. These students were offered one hour of research counting toward course credit in return for participation in the present study. Participation in the data pool was strictly voluntary, and students who preferred not to participate were afforded the option of pursuing alternative, non-research activities that were comparable in terms of time and effort.

The sampling procedure utilized by the current study can be classified as nonprobability (more specifically, convenience) sampling. This description applies when every member of the intended population does not have an equal likelihood to be selected for participation and the participants studied are those who are conveniently available. Although this sampling procedure may limit the generalizability of findings to a certain extent (Heiman, 2002), the large number of students enrolled in the aforementioned data pool and the breadth of departments and courses represented may contribute to an increased likelihood that the sample was representative of the college population. Furthermore, demographic data for the sample and the student population of the university was compared to determine any contribution of a non-respondent bias.

Population

It is important to keep in mind that the findings obtained in this study can only be generalized to individuals whose characteristics are similar to those seen in its sample. The

sample included students representative of all class standings (i.e., freshman, sophomore, junior, and senior); various academic majors (e.g., business, communications, education, exercise science, exploratory studies, family and child sciences, history, nursing, social science, undecided); and varying degrees of perfectionism, ipsative and relative career self-efficacy, vocational identity, and interest differentiation. As such, the present study's findings should apply to undergraduate college students attending large public universities in the southeastern United States and enrolled in education courses.

Characteristics of the Participants

The current study's sample was initially comprised of 191 students who agreed to participate in the College of Education Subject Pool during the fall semester of 2012. Of these individuals, six cases (three percent of the initial sample) were removed due to a failure to complete the SDS prior to the completion of the data collection period. An examination of the demographic characteristics of these six individuals revealed no apparent pattern of differences between typical non-completers and participants who did complete all of the study's measures. Final data analysis procedures included the remaining 185 participants.

Table 3 displays demographic information for both this study's sample and the general undergraduate population of the university at which the present study was carried out for the 2012-2013 academic year. Examination of this table reveals that, within the current study's sample, men and individuals identifying as Hispanic/Latino/Latina were under-represented, while females and individuals identifying as African-American were over-represented, comparative to the general undergraduate population. Participants ranged in age from 18 to 49 ($M = 20.18$, $SD = 3.74$), and 42.7% of them ($n = 79$) were enrolled in education-related majors. Finally, after score profiles on the APS-R were used to classify participants by perfectionism

type, 37.3% of the sample ($n = 69$) were identified as adaptive perfectionists, 23.2% of the sample ($n = 43$) were identified as maladaptive perfectionists, and 39.5% of the sample ($n = 73$) were identified as non-perfectionists. These percentages are similar to those observed in other comparison group studies of perfectionism among college students (e.g., Rice & Ashby, 2007).

Table 3

Demographic Information for Sample and University Population

| Characteristic | Sample ($n = 185$) | Population ($n = 31,943$) |
|---------------------------|----------------------|-----------------------------|
| Gender | | |
| Male | 15.7% (29) | 44.5% (14,228) |
| Female | 84.3% (156) | 55.5% (17,715) |
| Ethnicity | | |
| Native American/Alaskan | | .310% (99) |
| Asian | 2.70% (5) | 2.61% (834) |
| Black/African American | 13.5% (25) | 8.71% (2,782) |
| Hispanic/Latino/Latina | 7.02% (13) | 15.8% (5,051) |
| Hawaiian/Pacific Islander | .541% (1) | .031% (10) |
| White/European American | 69.7% (129) | 67.7% (21,616) |
| Multiracial | 4.32% (8) | 2.38% (760) |
| Not Reported | 2.16% (4) | 1.48% (474) |

Data Analysis

In this section, details regarding the data analyses used in this study are discussed. First, the statistical procedures are described. Then, evidence supporting the choice of analyses is

addressed, along with the results of the power analysis completed to ensure sufficient sample size.

Statistical Procedures

All data analyses were completed using SPSS (Statistical Package for the Social Sciences), version 19.0. Descriptive statistics for the sample were first calculated, using the demographic information collected. Additionally, preliminary univariate analyses of variance (ANOVAs) were carried out for each dependent variable in order to ensure that groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists were equivalent in terms of important demographic variables, such as age. This was done so that any contribution of these variables could be statistically controlled, if necessary. Finally, data were examined to rule out the presence of any non-linear relationships between the independent and dependent variables.

Following this, analyses were performed to evaluate the impact of perfectionism type on ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. In order to evaluate the research question and associated hypotheses, a one-way between-groups multivariate analysis of variance (MANOVA) was conducted, using perfectionism type (adaptive perfectionists, maladaptive perfectionists, and non-perfectionists) as a categorical independent variable and ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation as continuous dependent variables.

When significant results were detected using the MANOVA, follow-up ANOVAs were conducted on the significant dependent variables. The present study utilized a significance level of $p < .05$ for interpreting the significance of MANOVA results. However, in order to control Type I error rate, a Bonferroni correction was applied for any follow-up analyses performed

(unless an even more stringent alpha-level was indicated, due to violations of MANOVA assumptions). The partial eta squared statistic was used as a measure of effect size for any group differences observed.

Data Analysis Validity

The current study utilized one three-level categorical independent variable: Perfectionism type (adaptive perfectionists, maladaptive perfectionists, and non-perfectionists). It also included four continuous dependent variables: Ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. Its research question and hypotheses investigated the existence of group differences with respect to perfectionism type on each of the dependent variables. As the MANOVA is a statistical procedure considered appropriate for situations involving one or more categorical independent variables and more than one continuous dependent variable (Heiman, 2002), this analysis appears to be an acceptable means by which to have addressed the research question and hypotheses posed by this study.

Power Analysis and Sample Size

An a-priori power analysis was conducted for a one-way between-groups MANOVA testing for group differences in perfectionism on ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. A medium effect size of $f^2 = .06$ was used, and α -level was set to .05. The program G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) indicated that a power level of .80 could be achieved with a sample of $n = 132$. An additional a-priori power analysis was conducted to ensure sufficient power in the event that Hypothesis 1 was confirmed and follow-up univariate analyses were therefore indicated. A medium effect size of $f = .25$ was used, and α -level was again set to .05. For this test, G*Power indicated that a power level of .80 could be achieved with a sample of $n = 159$. To ensure

sufficient power for all omnibus and follow-up analyses and to compensate for the likelihood that some respondents would provide data that was incomplete or otherwise unusable, the present study requested a total of 180 participants (but ultimately received 191 respondents, 185 of whom completed all of the study's measures).

Delimitations

The current study had some constraints that were taken into consideration prior to data collection. First of all, this study utilized a convenience sample comprised of undergraduate students attending a public university in the southeastern United States and enrolled in education courses. Although these individuals represented a variety of fields and years of study, it is important to remember that findings may be limited to populations with similar characteristics. Additionally, given the voluntary nature of participation in the present study and the fact that course credit was offered in return for participation, individuals who chose to take part may not have been representative of the general university undergraduate population in unknown but potentially important ways. For example, these individuals may have been more motivated than is typical. Regarding the current study's measures, only self-report instruments were used. Accordingly, conclusions were drawn on the basis of participants' perceptions, without consideration for the objective accuracy of these perceptions. Furthermore, only single measures of career self-efficacy, vocational identity, and differentiation were utilized. Although care was taken to select measures that demonstrated strong evidence of reliability and validity, there is always the possibility that different measures may have resulted in different findings. Finally, given this study's use of a quasi-experimental, causal comparative design, participant variables may have posed a threat to internal validity, and causal attributions cannot be made about its findings.

Procedures

Prior to beginning data collection, permission to conduct the present study was obtained from the university's Institutional Review Board (IRB; see Appendix D). Upon receiving IRB approval, a Request for Study Number form (see Appendix E) was submitted to the College of Education Office of Research. Approval of this request permitted data to be collected for the present study through the College of Education Subject Pool. Data collection was carried out during the fall semester of 2012, beginning in September and ending in December.

Data collection was performed using the Qualtrics online survey software offered through the university. This survey software is available to university students and employees and permits a secure means by which to both administer measures and maintain data. The APS-R and VIS are freely accessible to researchers and were transcribed directly into the Qualtrics system. However, the SDS Form R Internet is copyrighted, sold through Psychological Assessment Resources (PAR), and thus could not be similarly transcribed into the online survey system utilized by the current study. Instead, prior to data collection, a group administration ID and passwords for 200 online administrations were purchased from PAR. The Qualtrics system allows for counterbalancing of measures; as such, the administration order of the participant information form, APS-R, and VIS were randomized for each respondent so as to minimize any contribution of order effects. Access to demographic, APS-R, and VIS data was protected with login codes within the Qualtrics system, in order to ensure confidentiality of participants' responses. Arrangements were made through PAR for participants' SDS Form R Internet data to be E-mailed directly to this researcher upon each participant's completion of the instrument.

Students from the College of Education Subject Pool were able to register for participation in studies by visiting a website through the university's online course management

system, Blackboard. If enrolled in a participating course, they were provided with this link in their course syllabi. A very brief description of participation in the present study was posted on this website (see Appendix F). Once an individual registered for participation in the current study, he or she was E-mailed a link to the online measures in the Qualtrics system (see Appendix G). Initially, that individual was presented with an electronic informed consent statement briefly explaining the nature of this study, forms to be completed, confidentiality of responses, and risks and benefits of involvement (see Appendix H). This form emphasized the voluntary nature of participation in the present study and reiterated that participants could choose to withdraw at any point without negatively impacting their grades in any way.

Once individuals consented to participate by choosing to continue with the survey, they entered their Blackboard ID, course number, and E-mail address (see Appendix I), which all constituted information required to receive course credit for research participation. They were then presented with the demographic form, APS-R, and VIS. The Qualtrics system allows researchers to arrange to receive E-mail notification each time a set of measures is completed. Accordingly, each time a participant completed the three measures listed above, he or she was presented with a notification (see Appendix J) that the researcher would E-mail him or her with a link, group ID, and password to the SDS Form R Internet and a reminder that, in order to receive full credit for participation, he or she must complete this final assessment within 72 hours (see Appendix K). If a participant had not done so within 48 hours, a form reminder E-mail was sent to him or her (see Appendix L).

Once participants completed the SDS Form R Internet, they were able to view their resulting interpretive summary (a benefit of participation articulated in the informed consent statement) and received a follow-up E-mail containing a debriefing form (see Appendix M).

Additionally, they received full research credit. If participants chose not to complete all forms, they were given partial research credit. No form of identification was associated with each individual's responses, and any identifying information obtained to link a particular individual's responses to the demographic form, APS-R, and VIS with his or her SDS Form R Internet interpretive summary was destroyed to preserve confidentiality once data collection was complete.

CHAPTER 4

RESULTS

A one-way between-groups MANOVA was carried out in order to evaluate the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students. This chapter begins with a presentation of the descriptive statistics for each variable of interest. It then presents reliability estimates for the measures used, as well as the findings associated with the research question and hypotheses posed by the present study.

Descriptive Statistics of Variables

Descriptive statistics were calculated for APS-R High Standards and Discrepancy scores (as these were used to categorize participants by perfectionism type), the SDS Competencies and SDS Self-Estimates scores corresponding with each participant's high-point RIASEC code, total score on the VIS, and SDS differentiation score. These values, which include mean, standard deviation, range, skewness, and kurtosis statistics, are presented in Table 4. A preliminary examination of the skewness and kurtosis of VIS total score and SDS differentiation score revealed that assumptions of normality were not violated for these distributions. In contrast, the skewness and kurtosis values of the SDS Competencies and Self-Estimates scores associated with each participant's high-point RIASEC code exceeded an absolute value of 1.00, suggesting negatively skewed and leptokurtic rather than normal distributions.

As such, data for these two variables were reflected and transformed prior to inclusion in further analyses, according to recommendations by Tabachnick and Fidell (2007). More specifically, new reflected variables were created by subtracting each data point from a constant (obtained by adding 1 to the original variable's largest possible value). These reflected variables

were then transformed by calculating the base-10 logarithm of each reflected data point.

Descriptive statistics for these transformed variables are presented in Table 5. One can see that following reflection and transformation, the skewness and kurtosis values associated with each variable fell into the acceptable range. Accordingly, transformed SDS Competencies and Self-Estimates scores were used in all subsequent analyses. However, for interpretive purposes, the original, non-transformed means and standard deviations are referenced when discussing group differences on these variables.

Table 4

Descriptive Statistics for Variables of Interest

| Variable | Mean | SD | Range | Skewness | Kurtosis |
|---------------------|-------|-------|---------|----------|----------|
| APS High Standards | 42.26 | 4.76 | 28-49 | -.658 | .060 |
| APS Discrepancy | 40.49 | 14.30 | 12-84 | .451 | -.220 |
| SDS Competencies | 9.53 | 1.62 | 2-11 | -1.52 | 2.72 |
| SDS Self-Estimates | 12.14 | 2.02 | 2-14 | -1.74 | 4.25 |
| VIS Total | 11.16 | 5.00 | 0-18 | -.488 | -.865 |
| SDS Differentiation | 7.43 | 3.19 | 1-16.25 | .435 | -.192 |

Table 5

Descriptive Statistics for Transformed Variables

| Variable | Mean | SD | Range | Skewness | Kurtosis |
|--------------------|------|------|--------|----------|----------|
| SDS Competencies | .312 | .262 | 0-1.00 | .280 | -.869 |
| SDS Self-Estimates | .363 | .287 | 0-1.11 | .157 | -.885 |

Instrumentation

Where possible, scale and subscale reliability estimates were calculated for the measures utilized in the current study. The Cronbach alpha coefficients obtained for the APS-R High Standards, Order, and Discrepancy subscales were .81, .88, and .93, respectively. These values are comparable to the internal consistency estimates achieved by Slaney et al. (2001) in their sample of university students, which ranged from .82 to .91. The Cronbach alpha coefficient obtained for the VIS was .89, which was also consistent with the range (.86 to .89) noted for Holland et al.'s (1980) normative sample. Internal consistency estimates were not calculated for the subscales of the SDS, as individual item responses were unavailable for the current sample.

Research Question and Hypotheses

The present study posed the following research question: What is the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students? This section presents the findings for each of the five hypotheses associated with the aforementioned research question.

Hypothesis 1

The first hypothesis in this study predicted that there would be a significant multivariate effect of perfectionism type on a linear composite of ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. To test this hypothesis, a one-way between-groups MANOVA was performed. Because age has been found to share a positive relationship with vocational identity (Johnson, Buboltz, & Nichols, 1999), a preliminary ANOVA was performed to check for age differences in perfectionism type. These results ruled out the need to control for the contribution of age in further analyses.

Preliminary assumption testing was conducted to check for normality, linearity, and univariate and multivariate outliers, with no serious violations observed. Perfectionism type group sizes, means, and standard deviations for each dependent variable are presented in Table 6. As can be seen, cell sizes exceed 30, supporting the robustness of the MANOVA to violations of normality or equality of variance.

Table 6

Perfectionism Type Group Sizes, Means, and Standard Deviations

| | N | Mean | Standard Deviation |
|--------------------------------|----|--------------|--------------------|
| SDS Competencies (Adaptive) | 69 | 9.70 (.289) | 1.40 (.254) |
| (Maladaptive) | 43 | 9.63 (.282) | 1.83 (.275) |
| (Non) | 73 | 9.32 (.353) | 1.67 (.259) |
| SDS Self-Estimates (Adaptive) | 69 | 12.57 (.296) | 1.75 (.274) |
| (Maladaptive) | 43 | 12.63 (.288) | 1.84 (.264) |
| (Non) | 73 | 11.44 (.470) | 2.18 (.281) |
| VIS Total (Adaptive) | 69 | 13.35 | 3.89 |
| (Maladaptive) | 43 | 9.88 | 4.87 |
| (Non) | 73 | 9.85 | 5.34 |
| SDS Differentiation (Adaptive) | 69 | 7.43 | 3.48 |
| (Maladaptive) | 43 | 7.44 | 3.12 |
| (Non) | 73 | 7.42 | 2.97 |

Note. Means and standard deviations for transformed variables are presented in parentheses.

Additionally, Pearson correlations between each of the current study's variables of interest (including APS-R High Standards and Discrepancy scores, for the reasons specified

earlier) were calculated, in order to test the MANOVA assumption of multicollinearity and singularity. These correlation coefficients are presented in Table 7, demonstrate a pattern of small to moderately-sized relationships between most of the current study's dependent variables, and thus support the MANOVA as an appropriate statistical approach. Furthermore, Box's Test of Equality of Covariance Matrices returned a non-significant Box's M statistic of 22.91, $p = .33$. Thus, the covariance matrices between perfectionism type groups were assumed to be equal for the purposes of the MANOVA.

Table 7

Pearson Correlations between Variables of Interest

| | 1. | 2. | 3. ^a | 4. ^a | 5. | 6. |
|------------------------------------|---------|---------|-----------------|-----------------|---------|---------|
| 1. APS High Standards | 1.00 | -.233** | -.205** | -.294** | .202** | -.010 |
| 2. APS Discrepancy | -.233** | 1.00 | .102 | .110 | -.370** | -.001 |
| 3. SDS Competencies ^a | -.205** | .102 | 1.00 | .477** | -.239** | -.366** |
| 4. SDS Self-Estimates ^a | -.294** | .110 | .477** | 1.00 | -.327** | -.277** |
| 5. VIS Total | .202** | -.370** | -.239** | -.327** | 1.00 | .109 |
| 6. SDS Differentiation | -.010 | -.001 | -.366** | -.277** | .109 | 1.00 |

^a Because these variables underwent a reflection and transformation, the directions of their relationships with other variables (except one another) should be reversed for interpretive purposes.

** $p < .01$

To test the hypothesis that there would be one or more mean differences between perfectionism type groups, a one-way between-groups MANOVA was conducted. There was a statistically significant difference between adaptive perfectionists, maladaptive perfectionists,

and non-perfectionists on the combined dependent variables, $F(8, 358) = 4.88, p = .000$; Wilks' Lambda = .813. The partial eta squared statistic was estimated at .098, reflecting a moderate effect size and indicating that 9.8% of the variance in the canonically derived dependent variable was accounted for by perfectionism type. These results suggest that the current study's first hypothesis was supported.

Given the significance of the overall multivariate test, univariate main effects were examined. Prior to conducting a series of follow-up ANOVAs, the homogeneity of variance assumption was tested for all four dependent variables. Levene's Test of Equality of Error Variances revealed a violation of the assumption of equality of variance for only VIS total score, $F(2, 182) = 6.33, p = .002$. This violation was addressed by following Tabachnick and Fidell's (2007) recommendation to utilize a more conservative alpha-level of .01 when determining significance in the univariate F-test for this variable. A Bonferroni-adjusted alpha level of .013 was used for all other univariate F-tests, in order to minimize Type I error rate. These findings, corresponding with each of the current study's remaining hypotheses, are discussed next and are summarized in Table 8.

Table 8

Summary of Univariate Test Effects on Dependent Variables

| | $F(2, 182)$ | p | η^2 |
|---------------------|-------------|------|----------|
| SDS Competencies | 1.45 | .236 | .016 |
| SDS Self-Estimates | 9.22 | .000 | .092 |
| VIS Total | 11.75 | .000 | .114 |
| SDS Differentiation | .000 | 1.00 | .000 |

Hypothesis 2

The second hypothesis in this study predicted that there would be a significant relationship between perfectionism type and ipsative career self-efficacy. More specifically, adaptive perfectionists were predicted to demonstrate significantly greater ipsative career self-efficacy than maladaptive perfectionists and non-perfectionists. Maladaptive perfectionists were predicted to demonstrate significantly lower ipsative career self-efficacy than adaptive perfectionists and non-perfectionists. Differences of perfectionism type on SDS Competencies score did not reach statistical significance, $F(2, 182) = 1.45, p = .236$, partial eta squared = .016. These results suggest that no significant mean differences in SDS Competencies score were identified between adaptive perfectionists, maladaptive perfectionists, and non-perfectionists, and that the current study's second hypothesis was therefore not supported.

Hypothesis 3

The third hypothesis in this study predicted that there would be a significant relationship between perfectionism type and relative career self-efficacy. More specifically, adaptive perfectionists were predicted to demonstrate significantly greater relative career self-efficacy than maladaptive perfectionists and non-perfectionists. Maladaptive perfectionists were predicted to demonstrate significantly lower relative career self-efficacy than adaptive perfectionists and non-perfectionists. Differences of perfectionism type on SDS Self-Estimates score reached statistical significance, $F(2, 182) = 9.22, p = .000$. The partial eta squared statistic of .092 reflected a moderate effect size and indicated that approximately 9.2% of the variance in SDS Self-Estimates score was accounted for by perfectionism type. Accordingly, a series of post-hoc pairwise comparisons (Fisher's LSD) were conducted and are summarized in Table 9. A Bonferroni-adjusted alpha level of .004 was used, to account for the three pairwise comparisons

made for each dependent variable. These pairwise comparisons indicated that both adaptive perfectionists ($M = 12.57, SD = 1.75$) and maladaptive perfectionists ($M = 12.63, SD = 1.84$) reported significantly higher SDS Self-Estimates scores than non-perfectionists ($M = 11.44, SD = 2.18$). No significant differences were observed between the SDS Self-Estimates scores of adaptive perfectionists and maladaptive perfectionists. These results suggest that the current study's third hypothesis was partially supported.

Table 9

Mean Differences of SDS Self-Estimates Score by Perfectionism Type

| | Mean Difference | SE | p |
|----------------------|-----------------|------|------|
| Adaptive/Maladaptive | 0.06 (.009) | .053 | .870 |
| Adaptive/Non | 1.13 (.174) | .046 | .000 |
| Maladaptive/Non | 1.19 (.183) | .053 | .001 |

Note. Mean differences for transformed means are provided in parentheses.

Hypothesis 4

The fourth hypothesis in this study predicted that there would be a significant relationship between perfectionism type and vocational identity. Adaptive perfectionists were predicted to demonstrate significantly greater vocational identity than maladaptive perfectionists and non-perfectionists. Maladaptive perfectionists were predicted to demonstrate significantly lower vocational identity than adaptive perfectionists and non-perfectionists. As discussed previously, to address the violation of the assumption of equality of variance for VIS total score, a more conservative alpha-level of .01 was utilized when determining significance in the univariate F-test for this variable. Differences of perfectionism type on VIS total score reached statistical

significance, $F(2, 182) = 11.75, p = .000$. The partial eta squared statistic of .114 reflected a moderate to large effect size and indicated that approximately 11.4% of the variance in VIS total score was accounted for by perfectionism type. Accordingly, a series of post-hoc pairwise comparisons (Fisher's LSD) were conducted and are summarized in Table 10. A Bonferroni adjusted alpha-level of .003 was used, to account for the three pairwise comparisons made for each dependent variable. These pairwise comparisons indicated that adaptive perfectionists ($M = 13.35, SD = 3.89$) reported significantly higher VIS total scores than both maladaptive perfectionists ($M = 9.88, SD = 4.87$) and non-perfectionists ($M = 9.85, SD = 5.34$). No significant differences were observed between the VIS total scores of maladaptive perfectionists and non-perfectionists. These results suggest that the current study's third hypothesis was partially supported.

Table 10

Mean Differences of VIS Total Score by Perfectionism Type

| | Mean Difference | SE | p |
|----------------------|-----------------|------|------|
| Adaptive/Maladaptive | 3.46 | .919 | .000 |
| Adaptive/Non | 3.50 | .794 | .000 |
| Maladaptive/Non | .034 | .909 | .970 |

Hypothesis 5

The fifth hypothesis in this study predicted that there would be no significant relationship between perfectionism type and interest differentiation. More specifically, adaptive perfectionists, maladaptive perfectionists, and non-perfectionists were predicted to demonstrate

similar levels of interest differentiation. Differences of perfectionism type on SDS differentiation score did not reach statistical significance, $F(2, 182) = .000$, $p = 1.000$, partial eta squared = .000. These results suggest that no significant mean differences in SDS differentiation score were identified between adaptive perfectionists, maladaptive perfectionists, and non-perfectionists, and that the current study's fifth hypothesis was therefore supported.

CHAPTER 5

DISCUSSION

The purpose of the present study was to explore the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students. Score patterns on the High Standards and Discrepancy subscales of the Revised Almost Perfect Scale (APS-R) were used to categorize participants into groups of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. Total scores on the Competencies and Self-Estimates scales of the Self-Directed Search (SDS) associated with each participant's high-point RIASEC code were used to measure ipsative and relative career self-efficacy, respectively. Vocational identity was measured using the Vocational Identity scale (VIS) of the My Vocational Situation (MVS). Finally, interest differentiation was measured using the Iachan Differentiation Index score from the SDS. This chapter begins with a summary of the findings related to each of the current study's hypotheses, in light of previous research. It concludes with a discussion of the study's limitations and implications for theory, research, and practice.

Discussion of Findings

The present study investigated the research question of how perfectionism type impacts college students' ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. Based on the extant literature, five hypotheses were posed in response to this research question. To evaluate whether these hypotheses were supported, a one-way between-groups MANOVA and a series of follow-up ANOVAs was carried out. In this section, the results of each analysis and their consistency with existing research findings are described with respect to each of the current study's hypotheses.

Hypothesis 1

The first hypothesis in the present study predicted that there would be a significant multivariate effect of perfectionism type on a linear composite of ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation. The aforementioned MANOVA supported this multivariate effect, suggesting the existence of group differences of perfectionism type on at least one of the current study's dependent variables. This multivariate effect was expected, given research that will be discussed below.

Hypothesis 2

It was hypothesized that a significant relationship would be observed between perfectionism type and ipsative career self-efficacy. More specifically, adaptive perfectionists were anticipated to report significantly higher levels of ipsative career self-efficacy than either maladaptive perfectionists or non-perfectionists. Meanwhile, maladaptive perfectionists were anticipated to report significantly lower levels of ipsative career self-efficacy than either adaptive perfectionists or non-perfectionists.

In contrast with these predictions, a one-way between-groups ANOVA revealed no group differences of perfectionism type on ipsative career self-efficacy. In other words, adaptive perfectionists, maladaptive perfectionists, and non-perfectionists reported comparable degrees of belief in their ability to perform tasks related to a given vocational area, in comparison to their perceived abilities in other vocational areas. These results are inconsistent with previous research suggesting that adaptive perfectionism is positively related to self-efficacy, while maladaptive perfectionism is negatively related to self-efficacy in various domains, including career decision-making (Martin et al., 1996; Mills & Blankstein, 2000; Stoeber et al., 2008; Page et al., 2008).

They are consistent with the results of one study that found no differences between perfectionists and non-perfectionists with respect to self-efficacy (Hake, 2006).

The use of the SDS Competencies scale as a measure of ipsative career self-efficacy may be one reason for the present study's observed lack of group differences of perfectionism type on this variable. Respondents to this subscale are asked to differentiate whether activities associated with each of the six RIASEC types represent tasks they can do well or competently or tasks they have never performed or perform poorly. As such, the SDS Competencies scale may be less a measure of ipsative career self-efficacy and more a measure of individuals' perceptions of their ability to attain a basic level of competent or adequate performance on tasks related to each of the RIASEC areas. Although research has supported a relationship between perfectionism type and self-efficacy, such a relationship may not exist between perfectionism type and perceived competence. For example, maladaptive perfectionists may believe that they have basic competence in a given domain while still doubting their ability to achieve their unrealistically high performance standards on tasks related to that area.

In keeping with this notion, Stornelli, Flett, and Hewitt (2009) found no differences among adaptive and maladaptive perfectionists with respect to perceived academic competence. McArdle (2010) also found perceptions of competence to be unrelated to perfectionism. Along the same lines, studies have found that although perfectionism type may predict task-related distress, it does not necessarily predict perceptions of past performance. Frost et al. (1995) and Frost et al. (1997) found that maladaptive perfectionists responded more negatively (e.g., with more negative affect, critical self-talk, evaluative concerns, and rumination) to mistakes made both during a simple laboratory task and in daily life but did not perceive themselves to have made more mistakes than adaptive perfectionists or non-perfectionists.

A second consideration concerning the use of the SDS Competencies scale is that, when responding to items, individuals can only choose to answer “yes” or “no.” Bandura (2006) pointed out that offering respondents too few response options per item may cause a self-efficacy measure to lose information that might otherwise differentiate between groups of participants. In other words, its two-alternative forced-choice format may have restricted the sensitivity of the SDS Competencies scale as a measure of ipsative career self-efficacy. Furthermore, some research suggests that the Competencies and Self-Estimates scales of the SDS may not predict career self-efficacy as well for certain Holland types (i.e., Enterprising, Conventional, and Realistic) as for others (i.e., Investigative, Artistic, and Social; Bullock-Yowell et al., 2011). For these reasons, it is possible that different measures of skills confidence could have produced results more consistent with previous research concerning perfectionism and self-efficacy.

Other explanations for the present study’s absence of group differences of perfectionism type on ipsative career self-efficacy may be related to sampling or design issues. For instance, the distribution of SDS Competencies scores in the current study was notably negatively skewed and leptokurtic. This suggests that within this particular sample, these scores tended to be high and demonstrate relatively little variation. The limited range of this score distribution may have restricted the present study’s power to detect group differences among adaptive perfectionists, maladaptive perfectionists, and non-perfectionists on ipsative career self-efficacy. Alternatively, it is important to consider that other studies examining perfectionism and self-efficacy have used different measures of perfectionism, varying perfectionism facet scores in the operationalization of adaptive and maladaptive perfectionism, a correlational design, and/or cluster analysis or median splits on perfectionism facet subscales to form groups of perfectionists. The current study followed Stoeber and Otto’s (2006) recommendations to use comparison groups of

perfectionists, formed using the standardized cutoff scores on the High Standards and Discrepancy subscales of the APS-R, as suggested by Rice and Ashby (2007). It is unclear how much these methodological differences may have contributed to the inconsistencies observed between this study's findings and those of previous studies investigating perfectionism and self-efficacy.

Hypothesis 3

It was hypothesized that a significant relationship would be observed between perfectionism type and relative career self-efficacy. More specifically, adaptive perfectionists were anticipated to report significantly higher levels of relative career self-efficacy than either maladaptive perfectionists or non-perfectionists. Meanwhile, maladaptive perfectionists were anticipated to report significantly lower levels of relative career self-efficacy than either adaptive perfectionists or non-perfectionists.

In keeping with these expectations, a one-way between-groups ANOVA did suggest the existence of group differences of perfectionism type with respect to relative career self-efficacy. However, follow-up pairwise comparisons revealed that the above hypothesis was only partially supported. As expected, adaptive perfectionists demonstrated greater levels of relative career self-efficacy than did non-perfectionists. Unexpectedly, however, maladaptive perfectionists also demonstrated greater levels of relative career self-efficacy than did non-perfectionists, although they did not differ significantly from adaptive perfectionists in this regard. In other words, both groups of perfectionists reported more belief than non-perfectionists in their ability to perform tasks related to a particular vocational area, compared to the perceived abilities of their peers in the same vocational area.

These results are consistent with previous research suggesting that adaptive perfectionism is positively related to self-efficacy in various domains (Ganske & Ashby, 2007; LoCicero & Ashby, 2000; Martin et al., 1996; Page et al., 2008; Stoeber et al., 2008). However, they are inconsistent with findings suggesting that maladaptive perfectionism is negatively related to such outcome variables (Martin et al., 1996; Mills & Blankstein, 2000; Stoeber et al., 2008; Page et al., 2008). The results pertaining to maladaptive perfectionists do align with those of one study, which found that maladaptive perfectionism was positively associated with generalized self-efficacy (Hart et al., 1998).

One possible explanation for the current study's finding that both adaptive and maladaptive perfectionists reported greater relative career self-efficacy than did non-perfectionists concerns the SDS Self-Estimates scale instructions. Namely, respondents to this scale are asked to rate their ability in each of the six RIASEC areas, in comparison to that of their peers. This explicit comparative component is absent from the instructions of other self-efficacy measures that have been utilized in perfectionism research (i.e., the General Self-Efficacy Scale, Self-Efficacy Scale, Career Decision Self-Efficacy Scale – Short Form). Research on perfectionism and achievement motivation has found that both adaptive and maladaptive perfectionists are motivated by a performance-approach goal orientation (Stoeber, Stoll, Pescheck, & Otto, 2008). Individuals with such a goal orientation are motivated by the desire to make a good impression by demonstrating high ability in comparison to others and, if possible, outperforming others (Elliot & Harackiewicz, 1996; Skaalvik, 1997). Such findings suggest that, although they may experience different degrees of distress as a consequence of high standards for task performance, both adaptive and maladaptive perfectionists could still see their ability to

perform in varying domains as greater than that of their peers. Thus, both perfectionist groups may have endorsed higher SDS Self-Estimates ratings than non-perfectionists.

Gosselin (2003) suggested another potential explanation for the present study's discrepant findings concerning perfectionism and relative career self-efficacy. She proposed that perfectionists may have responded to the self-efficacy measure utilized in her study in a manner that reflected their desired performance rather than their belief in their actual ability within that performance domain. This supposition is consistent with the difficulty perfectionists are thought to experience in setting achievable goals and the current study's observation that both adaptive perfectionists and maladaptive perfectionists endorsed higher SDS Self-Estimates ratings than non-perfectionists.

Finally, as with the previous hypothesis, it is important to consider results pertaining to perfectionism type and relative career self-efficacy within the context of the present study's sample and design. As with SDS Competencies scores, the SDS Self-Estimates score distribution observed in this study demonstrated considerable negative skew and leptokurtosis. This suggests that, within this sample, SDS Self-Estimates scores tended to be particularly high and show relatively little variation, which may have influenced the pattern of results observed (e.g., by obscuring group differences between adaptive and maladaptive perfectionists). Again, inconsistencies between the current findings and those seen in other studies of perfectionism and self-efficacy may have resulted from the use of a different measure of perfectionism; a comparison group-based approach; and standardized cutoff scores to identify adaptive perfectionists, maladaptive perfectionists, and non-perfectionists within the sample.

Hypothesis 4

It was hypothesized that a significant relationship would be observed between perfectionism type and vocational identity. More specifically, adaptive perfectionists were anticipated to report a significantly greater degree of vocational identity than either maladaptive perfectionists or non-perfectionists. Meanwhile, maladaptive perfectionists were anticipated to report a significantly lower degree of vocational identity than either adaptive perfectionists or non-perfectionists.

The current study's findings revealed that this hypothesis was partially supported. A one-way between-groups ANOVA suggested the existence of group differences of perfectionism type on vocational identity. Follow-up pairwise comparisons then found that, as predicted, adaptive perfectionists reported a more developed vocational identity than did either maladaptive perfectionists or non-perfectionists. Unexpectedly, maladaptive perfectionists and non-perfectionists reported similar levels of vocational identity. In other words, adaptive perfectionists appeared to endorse having a clearer and more consistent sense of their aspirations, interests, and abilities than both maladaptive perfectionists and non-perfectionists. Meanwhile, maladaptive perfectionists and non-perfectionists endorsed comparable degrees of clarity with respect to their career goals, interests, and skills.

Considerable research has supported the notion that adaptive perfectionism is positively associated with more active coping and identity exploration (Burns & Fedewa, 2005; Rice & Lapsley, 2001; Stoeber & Dirk, 2008). In other words, findings have suggested that adaptive perfectionists are more likely to proactively and thoroughly explore options pertaining to key identity-related choices, rather than engaging in neurotic rumination about their options. Accordingly, they are also more likely to demonstrate a more well-defined set of identity

commitments and a more crystallized self-concept (Luyckx et al., 2008). The results of the current study are consistent with these findings and suggest that the facilitative impact of adaptive perfectionism may extend beyond personal identity development to vocational identity development.

In contrast, previous research has suggested that maladaptive perfectionists are more likely to utilize ruminative exploration related to their excessively ambitious identity standards, rather than more effective goal-directed action, and as a potential consequence, demonstrate less integrated and realistic identity commitments, both personally and vocationally (Burns & Fedewa, 2005; Luyckx et al., 2008; Page et al., 2008; Park et al., 2011; Stoeber & Dirk, 2008). This study's finding that maladaptive perfectionists and non-perfectionists demonstrated comparably well-developed vocational identities was inconsistent with these results but consistent with those suggesting that maladaptive perfectionism does not always have a deleterious impact on indices of psychological adjustment or well-being (e.g., Ganske & Ashby, 2007; Hart et al., 1998; LoCicero & Ashby, 2000).

One possible explanation for the unexpected results seen here concerns the complexity of maladaptive perfectionism. Although maladaptive perfectionists may engage in behaviors that undermine their vocational identity, such as unrealistically stringent self-criticism, they also share tendencies seen in adaptive perfectionists (i.e., high personal standards) that may serve to facilitate the clarity and consistency of their aspirations, interests, and abilities. In other words, maladaptive perfectionists' pervasive perception that they are failing to meet the standards they set for themselves may moderate the positive contribution of their internalized set of goals and standards (Ganske & Ashby, 2007). This is consistent with the observation that, as can be seen in Table 7, the high standards common to both types of perfectionists showed a significant positive

correlation with vocational identity, while the sense of failing to meet those standards unique to maladaptive perfectionists showed a significant inverse correlation with vocational identity.

Hypothesis 5

It was hypothesized that no significant relationship would be observed between perfectionism type and interest differentiation. More specifically, adaptive perfectionists, maladaptive perfectionists, and non-perfectionists were anticipated to report similar levels of interest differentiation. In keeping with this prediction, a one-way between-groups ANOVA found no significant group differences between adaptive perfectionists, maladaptive perfectionists, and non-perfectionists with respect to interest differentiation. In other words, all three of these groups demonstrated comparable levels of definition or distinctiveness in their SDS profiles, suggesting similarly crystallized interests or resemblance to the personality traits associated with their SDS codes (Reardon & Lenz, 1998; Spokane et al., 2002).

A handful of possible explanations may account for the present study's observed lack of group differences of perfectionism type with respect to interest differentiation. First of all, researchers have pointed out that differentiation may represent a "weak" diagnostic sign, due to the comparatively limited and mixed support it has received within the career literature (Holland, 1997; Nauta, 2010; Reardon & Lenz, 1998). Additionally, the current study did not take into account SDS profile elevation. Researchers have pointed out that, depending on the elevation of a given profile, low differentiation may mean very different things. Namely, high flat profiles may be indicative of individuals with abundant energy and a broad range of interests, aptitudes, and abilities. Meanwhile, low flat profiles may be indicative of low self-esteem or self-efficacy, self-criticism, depression, identity confusion, or other emotional and psychological issues (Reardon & Lenz, 1998). Indeed, studies have found that profile elevation may moderate the

relationship between interest differentiation and certain variables, such as career exploration and vocational identity (Hirschi & Läge , 2007; Im, 2011). Not having accounted for profile elevation in this study may have obscured potential group differences of perfectionism type on interest differentiation. The findings of the present study are consistent with those that have found no relationship between interest differentiation and career exploration or vocational identity (Gottfredson & Jones, 1993; Hirschi & Läge , 2007; Leung et al., 1992).

Limitations of Study

In addition to the delimitations presented earlier, it is important to acknowledge limitations that may serve to further constrain the internal and external validity of the current study's findings. First of all, the sample was predominantly female (84.3%, $n = 156$). Table 3 presents the demographic information for the university at which the present study was carried out, for the 2012-2013 academic year. This table lists female students at 55.5% of the undergraduate population, suggesting that females were disproportionately represented within the current sample, compared to the university's general undergraduate population. Although the sample was otherwise generally reflective of the university population in terms of demographics, individuals enrolled in education-related majors also appear to have been over-represented within it (42.7%, $n = 79$, compared to the university population's 3.51%, $n = 1,121$). Additionally, as mentioned previously, the distributions of SDS Competencies and SDS Self-Estimates scores observed suggests that the present study's sample was particularly efficacious and may not necessarily have been representative of adaptive perfectionists, maladaptive perfectionists, and non-perfectionists drawn from a different college population (e.g., students seeking career advising or counseling services). Given these factors, statements about the extent

to which the present findings can be generalized to more diverse groups should be made with caution.

Secondly, the assessments utilized by the current study were easily identifiable as career and personality measures. This may have permitted social desirability to impact the manner in which participants responded to items. For example, one reason maladaptive perfectionists (23.2%, $n = 43$) may have comprised a minority of the sample could be that these individuals were reluctant to endorse items indicative of self-criticism. Any resulting misclassification of participants' perfectionism type may have introduced error into this study's results. This possibility is worth noting, as maladaptive perfectionism is thought to be associated with concerns about being critically evaluated by others (Hewitt & Flett, 1991).

Implications

Throughout the course of the present study, implications of its findings were noted. These implications are presented in this section. The section first addresses implications for theory and research in perfectionism and career development, then concludes with a discussion of implications for career counseling practice.

Implications for Theory

Early research on perfectionism conceptualized it as a unidimensional construct primarily maladaptive in nature. Later research has conceptualized it as a multidimensional construct, comprised of an adaptive dimension thought to be directly associated with indices of positive adjustment and either unrelated or inversely related to indices of poor adjustment, as well as a maladaptive dimension demonstrating the converse pattern of relationships. The results of the current study lend further support to a multidimensional conceptualization of perfectionism by

demonstrating group differences between adaptive perfectionists, maladaptive perfectionists, and non-perfectionists with respect to certain career development variables.

More specifically, this study's findings suggest that when one's perfectionism is adaptive (i.e., characterized by the pursuit of high standards with few concerns that one is failing to meet these standards), it may benefit that person's belief in his or her ability to perform tasks in a given vocational area, compared to peers, as well as the clarity and consistency of his or her aspirations, interests, and abilities. Meanwhile, when one's perfectionism is maladaptive (i.e., characterized by the pursuit of high standards, as well as a pervasive sense of discrepancy between those high standards and one's actual performance), no such benefit to vocational identity may be observed, although a positive contribution to relative career self-efficacy may still be apparent. By clarifying such differences, this study's findings contribute to the body of knowledge concerning the impact of person variables, such as personality characteristics or dispositions, on SCCT variables and Holland's secondary constructs. Present findings that, compared to non-perfectionists, maladaptive perfectionists demonstrated greater relative career self-efficacy and similar vocational identity also call into question the frequently made assumption that maladaptive perfectionism is always detrimental to an individual's functioning.

Implications for Research

The current study's findings lend support to Slaney et al.'s (1995) emphasis on the need to explore the contribution of perfectionism to career development variables, given the likelihood of important implications. In keeping with this, present findings suggest some directions for such future research. First of all, previous correlational research on perfectionism has been criticized for demonstrating inconsistent results (particularly concerning the correlates of adaptive perfectionism), due to overlap in the facets associated with each perfectionism dimension. One

aim of this study was to address that concern by following Stoeber and Otto's (2006) recommendation of using multivariate analysis to compare adaptive perfectionists, maladaptive perfectionists, and non-perfectionists with respect to variables of interest. This approach made it clearly visible that adaptive perfectionism (characterized by high standards and a low sense of discrepancy) had a positive impact on relative career self-efficacy and vocational identity and no apparent impact on ipsative career self-efficacy and interest differentiation.

However, because maladaptive perfectionism is characterized by both high standards and a high sense of discrepancy, the use of the three-comparison-group design recommended by Stoeber and Otto (2006) made it difficult to interpret the unanticipated finding that maladaptive perfectionists and non-perfectionists were comparable with respect to vocational identity. This absence of group differences has occasionally been observed in other studies comparing groups of perfectionists on career-related variables (e.g., career decision-making self-efficacy; Ganske & Ashby, 2007; LoCicero & Ashby, 2000), despite clear evidence that maladaptive perfectionism is inversely related to these variables (e.g., Page et al., 2008; Stoeber et al., 2008). These researchers suggested that, in addition to the possibility that maladaptive perfectionism has no real impact on the aforementioned variables, a moderating effect of discrepancy on the positive contribution of high standards may also explain such results.

Consistent with this notion, very recent perfectionism research has attributed such mixed findings to the possibility that adaptive and maladaptive perfectionism exist in each individual to varying degrees. These researchers have contended that interactions between differing levels of co-existing perfectionism dimensions within each individual may contribute to the inconsistent results sometimes observed in comparison group studies. To address this, they recommended the use of a 2 x 2 model, in which participants are classified as pure adaptive perfectionists (high in

key facets of adaptive perfectionism and low in key facets of maladaptive perfectionism), mixed perfectionists (high in key facets of both adaptive and maladaptive perfectionism), pure maladaptive perfectionists (low in key facets of adaptive perfectionism and high in key facets of maladaptive perfectionism), and non-perfectionists (low in key facets of both adaptive and maladaptive perfectionism). The authors suggested that moderated hierarchical regressions could then be used to examine the interactive effects of adaptive and maladaptive perfectionism on important life and academic outcomes (Gaudreau, 2012; Gaudreau & Thompson, 2010). Such a methodology could be applied by future researchers to better understand the impact of perfectionism type on vocational identity.

Similarly, a moderating effect of profile elevation was highlighted as a potential explanation for the lack of group differences of perfectionism type on interest differentiation observed in the present study. As such, one direction for future research may be to employ a 2 x 3 between-subjects factorial design, with perfectionism type (adaptive perfectionists, maladaptive perfectionists, and non-perfectionists) and profile elevation (high, low) as the two categorical independent variables and interest differentiation as a continuous dependent variable. This would allow profile elevation to be taken into account when comparing the impact of perfectionism type on differentiation of individuals' interests.

Perfectionism research has also been criticized for the inconsistent conceptualization of adaptive and maladaptive perfectionism. More specifically, researchers have used varying combinations of subscales from measures of perfectionism, some of which are thought to be related to factors other than adaptive or maladaptive perfectionism. To address this concern, the current study used Rice and Ashby's (2007) empirically supported cutoff scores on facets identified as key characteristics of adaptive perfectionism and maladaptive perfectionism to

create its comparison groups. Regarding future research, it is important to note that although the APS-R High Standards and Discrepancy subscales are single scales that represent proxy measures of the two dimensions of perfectionism, these dimensions are best captured through the use of multiple scales (Stoeber, 2012a). There are several other well-supported measures of adaptive perfectionism (e.g., the Personal Standards scale of the F-MPS, Self-Oriented Perfectionism scale of the HF-MPS, and the Striving for Excellence scale of the PI) and maladaptive perfectionism (e.g., the Concern Over Mistakes and Doubts about Actions scales of the F-MPS, the Socially-Prescribed Perfectionism scale of the HF-MPS, and the Concern Over Mistakes scale of the PI) that were not utilized in the current study. Future research could build on present findings by examining the consistency of results across different instruments measuring adaptive and maladaptive perfectionism, career self-efficacy, vocational identity, and interest differentiation.

This recommendation is particularly pertinent, given the current study's observation that the absence of group differences of perfectionism type on ipsative career self-efficacy and unexpected findings pertaining to maladaptive perfectionism and relative career self-efficacy may have been at least in part attributable to measurement issues. Another aim of the current study was to add to the literature related to the validity of the SDS Competencies and Self-Estimates scales as embedded measures of self-efficacy corresponding with each Holland type. Comparing this study's findings to those observed when utilizing other measures of its variables of interest could help clarify whether the present pattern of results reflects the true impact of perfectionism type on career self-efficacy or the possibility that the SDS Competencies and Self-Estimates scales measure variables similar to but distinct from career self-efficacy, such as perceived competence or desired performance.

Finally, as discussed previously, this study utilized what appeared to be a particularly efficacious sample of participants that may not have been characteristic of all college students. A direction for future research may be the replication of this study with samples drawn from different student populations (e.g., students seeking career advising or counseling services or taking a career development course). This could serve to determine whether sampling effects influenced the results observed in this study, or alternatively, support the results observed here and extend their generalizability. Along similar lines, the current study's predominance of female participants raises the question of how gender differences may have influenced its findings. Stoeber (2012a) highlighted the concern that very few perfectionism studies have reported gender differences and, among those that have, results have been inconsistent or inconclusive. As such, gender differences in perfectionism and its relationships with other variables also represent "open questions" that would benefit from additional research.

Implications for Practice

The results of the present study have a number of implications for working with individuals seeking career advising or counseling services. First of all, the results revealed that 37.3% ($n = 69$) of the sample was classified as adaptive perfectionists, 23.2% ($n = 43$) was classified as maladaptive perfectionists, and 39.5% ($n = 73$) was classified as non-perfectionists. The finding that 60.5% of the participants in this sample, drawn from individuals enrolled across a variety of undergraduate courses participating in a research pool, were perfectionists suggests that perfectionism may be a commonly occurring personality characteristic among college students. This frequency of occurrence underscores the importance of understanding perfectionism and its impact on career development variables, as career practitioners working with college students are likely to encounter some form of it in their clients.

Secondly, from an assessment standpoint, present findings suggest that an individual's pattern of responses on the SDS may help practitioners identify adaptive and maladaptive perfectionists among their clients. More specifically, the current study found that adaptive perfectionists and maladaptive perfectionists had higher scores on the SDS Self-Estimates scale than non-perfectionists. Accordingly, when noting an SDS profile with elevated Self-Estimates scores, career practitioners should consider assessing for perfectionism, either informally or using formal measures, such as the APS-R.

The findings of this study also suggest that, when encountering perfectionism in one's clients, it is important to avoid the assumption that perfectionism is harmful. Instead, practitioners may be well advised to assess whether a client is an adaptive perfectionist, maladaptive perfectionist, or non-perfectionist, and allow this assessment to guide interventions with that individual. Namely, given that adaptive perfectionists have higher levels of both relative career self-efficacy (compared to non-perfectionists) and vocational identity (compared to maladaptive perfectionists and non-perfectionists), practitioners should be cautious not to "treat" but rather foster aspects of perfectionism (i.e., striving toward a set of internalized goals or standards) that may benefit positive career development. For example, Kutlesa and Arthur (2008) found that interventions focused upon assisting students in instilling deeper satisfaction in their work; establishing ambitious but realistic goals; increasing the flexibility of their standards; and exploring the motivations behind their personal, academic, and career endeavors was effective in facilitating the development of adaptive perfectionism.

Meanwhile, in the current study, maladaptive perfectionists demonstrated a higher level of relative career self-efficacy than and a comparable level of vocational identity to non-perfectionists. This may suggest that maladaptive perfectionism is not necessarily detrimental to

career development and could actually benefit it in certain ways. However, there is evidence that key inclinations of maladaptive perfectionism (i.e., excessively harsh self-evaluation) are consistently associated with indices of distress (e.g., depression, hopelessness, anxiety; Aldea, Rice, Gormley, & Rojas, 2010). These findings, in conjunction with the possibility that maladaptive perfectionists' harmful inclinations may mitigate any positive contribution of their high standards indicates that practitioners would be well advised to assist maladaptive perfectionists in minimizing the maladaptive aspects of their perfectionism and focusing their energy on its more adaptive elements.

For example, Kutlesa and Arthur (2008) and Arpin-Cribbie et al. (2008) found significant reductions in perfectionism and related levels of distress after the application of cognitive-behavioral therapy and rational-emotive therapy interventions. Aldea et al. (2010) administered the APS-R, a measure of psychological symptoms, and a measure of emotional reactivity to a sample of college students. They found that maladaptive perfectionists who were given collaborative feedback about their maladaptive perfectionism and asked to explore its impact demonstrated significant reductions in their Discrepancy scores, increases in their High Standards scores, and reductions in global symptomatic distress and emotional reactivity. As such, it may be helpful for career practitioners to provide psycho-education to maladaptive perfectionists about the concept of discrepancy and collaboratively explore with them how it may hinder their career development.

Finally, the current study found no group differences of perfectionism type on ipsative career self-efficacy and interest differentiation. Thus, it is important to avoid any assumptions that perfectionistic clients will differ from non-perfectionistic clients with respect to these variables. It is also important to keep in mind that the interventions suggested above as

possibilities for facilitating helpful tendencies associated with adaptive perfectionism and mitigating potentially harmful tendencies associated with maladaptive perfectionism may not necessarily benefit a client's ipsative career self-efficacy or interest differentiation.

Conclusion

This study explored the impact of perfectionism type on the ipsative career self-efficacy, relative career self-efficacy, vocational identity, and interest differentiation of college students. These variables were examined with college students enrolled across a number of undergraduate courses who volunteered to participate in a research pool. On the basis of standardized score profiles on a measure of perfectionism, participants were classified as adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. A multivariate analysis of variance was carried out to determine the existence of group differences of perfectionism type on the four dependent variables. Follow-up univariate analyses of variance and pairwise comparisons found no group differences of perfectionism type with respect to ipsative career self-efficacy or interest differentiation. However, adaptive perfectionists and maladaptive perfectionists were found to report greater relative career self-efficacy than non-perfectionists. In addition, adaptive perfectionists were found to have higher levels of vocational identity than both maladaptive perfectionists and non-perfectionists, who reported levels of vocational identity comparable to one another. These results support the relevance of perfectionism to career development theory, research, and practice.

APPENDIX A

PARTICIPANT INFORMATION FORM

Instructions

For questions 1-3, 7, and 8, please enter your response in the spaces provided. For questions 4-6 and 9, please indicate the most fitting NUMBER.

1. Major (indicate major or “undecided”) _____

2. Age (in years) _____

3. Academic Status _____

- 1. Full-time
- 2. Part-time (enrolled in less than 12 hours)

4. Gender _____

- 1. Male
- 2. Female
- 3. Transgender

7. Ethnic Group _____

- 1. American Indian or Alaskan Native
- 2. Asian
- 3. Black/African American
- 4. Hispanic/Latino/Latina
- 5. Hawaiian Native or Other Pacific Islander
- 6. White/European American
- 7. Multiracial
- 8. Other
- 9. Prefer Not to Respond

8. Please list all the occupations you are considering right now.

9. Which occupation is your first choice (if undecided, write “undecided”)?

10. How well satisfied are you with your first choice? _____

- 1. Well satisfied with choice
- 2. Satisfied, but have a few doubts
- 3. Not sure
- 4. Dissatisfied, but intend to remain
- 5. Very dissatisfied and intend to change
- 6. Undecided about my future career

APPENDIX B

REVISED ALMOST PERFECT SCALE

Instructions

The following items are designed to measure attitudes people have toward themselves, their performance, and 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.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------------------|----------|----------------------|---------|-------------------|-------|-------------------|
| Strongly Disagree | 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.
14. I expect the best from myself.
15. I often worry about not measuring up to my own expectations.
16. My performance rarely measures up to my standards.
17. I am not satisfied even when I know I have done my best.
18. I try to do my best at everything I do.
19. I am seldom able to meet my own high standards of performance.
20. I am hardly ever satisfied with my performance.
21. I hardly ever feel that what I've done is good enough.
22. I have a strong need to strive for excellence.
23. I often feel disappointment after completing a task because I know I could have done better.

APPENDIX C

VOCATIONAL IDENTITY SCALE

Directions

Try to answer all the following statements as mostly TRUE or mostly FALSE. Choose the answer that best represents your present opinion.

In thinking about your present job or in planning for an occupation or a career:

- | | |
|--|-----|
| 1. I need reassurance that I have made the right choice of occupation. | T F |
| 2. I am confused about the whole problem of deciding on a career. | T F |
| 3. I am uncertain about the occupations I could perform well. | T F |
| 4. I don't know what my major strengths and weaknesses are. | T F |
| 5. The jobs I can do may not pay enough to live the kind of life I want. | T F |
| 6. If I had to make an occupational choice right now, I am afraid I would make a bad choice. | T F |
| 7. I need to find out what kind of career I should follow. | T F |
| 8. Making up my mind about a career has been a long and difficult problem for me. | T F |
| 9. I am confused about the whole problem of deciding on a career. | T F |
| 10. I am not sure that my present occupational choice or job is right for me. | T F |
| 11. I don't know enough about what workers do in various occupations. | T F |
| 12. No single occupation appeals strongly to me. | T F |
| 13. I am uncertain about what occupations I would enjoy. | T F |
| 14. I would like to increase the number of occupations I could consider. | T F |
| 15. My estimates of my abilities and talents vary a lot from year to year. | T F |
| 16. I am not sure of myself in many areas of life. | T F |
| 17. I have known what occupation I want to follow for less than one year. | T F |
| 18. I can't understand how some people can be so set about what they want to do. | T F |

APPENDIX D

INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL



Office of the Vice President for Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 - FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 07/27/2012

To: Elisabeth Musch - [REDACTED] >

Address: [REDACTED]

Dept.: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research

The Impact of Perfectionism Type on Career Self-Efficacy, Vocational Identity, and Interest Differentiation

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 07/26/2013 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: James Sampson <jsampson@admin.fsu.edu>, Advisor
HSC No. 2012.8741

APPENDIX E

REQUEST FOR STUDY NUMBER FORM

Date submitted: _____

Study number granted: _____

COE Subject Pool Application

Submit this sheet, along with your IRB approval & debriefing form/consent letter (to give brief description of study).

Person making request: Elisabeth Musch Department: EPIS

Position (select one): Faculty: Graduate Student: Other: _____

Researcher(s)/Assistants collecting data (if different from above): N/A

Researcher's school address and phone number: _____

Researcher's FSU e-mail account username (required to allow the coordinator to grant you access to administrative site for posting this study): _____

If you are a graduate student making this request, please provide faculty supervisor's:

Name: James P. Sampson Jr. Phone #: 850 644-6885 Signature: _____

Title of study (for Subject Pool website): Personal Characteristics and Career Decision Making-EPIS

Actual topic of study if title is unrevealing? The Impact of Perfectionism Type on the Career Self-Efficacy, Vocational Identity, and Interest Differentiation

Project type: Dissertation: Master's thesis: Faculty: Of College Students
Honor's thesis: DIS: Other (specify): _____

Have you passed your defense? (Please circle) Yes No N/A

Grant support? Yes: No: Will subjects be paid? Yes: No: How much? _____

Participants' task(s) during study: Participants will complete four online forms: (1) A demographic form, (2) the Almost Perfect Scale - Revised, (3) the Vocational Identity Scale, and (4) the Self-Directed Search.

Any shock, pain, embarrassment, risk of injury involved? Yes: No:

If yes please explain: _____

Restrictions on/criteria for participation: Participants must be 18 years or older and have the capacity to understand/read the informed consent statement and online forms.

How many sessions must participants attend to complete the study? Forms can be completed in one or two sittings

When and where are sessions held (if online, indicate so)? Sessions are entirely online.

When do you plan on starting & ending your study? Start: Sept. 2012 End: December 2012

Number of Subjects requested: 180

How much time total will participation take (including all sessions)? Please round in 1/4 hours segments. One hour maximum

APPENDIX F

BLACKBOARD STUDY DESCRIPTION

Title: Personal characteristics and career decision making

Brief Description: This is an online study worth 1 credit (i.e., this study will take 30 to 50 minutes), and is available to all students 18 years or older. If you decide to participate, you will be given two online surveys asking about your personal characteristics and career decision making. You will earn one credit for completing both surveys.

I will email you a link to the first survey on the start date/time you register for. Once you complete this, I will send you the link to the second survey, which **MUST BE COMPLETED WITHIN 72 HOURS.**

Full Description: In total, it will require 30 to 50 minutes to complete both of the online surveys. After you have completed the first survey, you will require a group ID and password to complete the second one. I will E-mail that information to you within 12 hours to ensure that you have time to complete both surveys within the 72-hour time limit. In return for completing ALL surveys, you will receive one credit.

APPENDIX G

E-MAIL WITH QUALTRICS LINK

Dear Student,

You have signed up to participate in the research study, “Personal characteristics and career decision making.” Please complete the first survey at the following link:

ONLINE PARTICIPATION LINK: _____

When you have completed this survey, instructions will be provided to complete another brief survey **WITHIN 72 HOURS** of having completed the first survey.

You will receive one hour of research credit upon completion of the second survey.

Thank you for your participation,

Elisabeth Musch, Ed.S., M.S.

Florida State University

Ph.D. Candidate, Counseling Psychology and School Psychology

APPENDIX H

INFORMED CONSENT STATEMENT

Dear Student,

Thank you for your interest in my dissertation research! My name is Elisabeth Musch, and I am a doctoral candidate in Counseling Psychology and School Psychology at Florida State University. I am conducting a research study to examine the impact of personal characteristics on college students' career self-efficacy, vocational identity, and vocational interests.

Your participation today will involve completing two online surveys. These online surveys include a demographic form and questionnaires about your personal characteristics, your attitudes about your current or future career planning, and your career interests. Completing these forms will require approximately 30 to 50 minutes of your time.

Your participation in this study is voluntary. You will not be paid for your participation. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. It will not reduce your grade in any courses in which you are enrolled.

In return for completing both surveys, you will receive one credit hour toward the College of Education Subject Pool requirement. You will also receive an individualized report that will allow you to browse occupations that match your career interests, based on your responses to the interest inventory. In addition to these benefits, you may gain a better understanding of factors influencing your career decision making. This information also has the potential to improve the ability of counselors and advisors to address issues that may interfere with career problem solving and decision making.

The information collected from you during the course of this study will remain confidential, to the extent allowed by law. Your responses to the demographic form and questionnaires will not be available to the public and will be accessed solely by the principal investigator and/or faculty advisor. Data from this study will be retained in a secure manner until August 31, 2019, after which time it will be destroyed. The results of the research study may be published, but your name will not be used, and the results will be presented in an anonymous group format only. Your name will not be included on any of the forms or questionnaires used in this study.

The discomfort and risk reasonably expected by your participation in this project is that you may become more aware of personal characteristics that relate to career decision making. If you experience distress, indecision, or uncertainty about your career after participating in this study, please visit or contact the FSU Career Center (850-644-6431) or the University Counseling Center (850-644-2003) to discuss your situation.

If you have any questions concerning this research study, please call Elisabeth Musch at (***) ***-**** or James, P. Sampson, Jr., Ph.D. at (850) 644-6885. If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can

contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Vice President for the Office of Research at (850) 644-8633.

The surveys will be available from August 31, 2012 to November 30, 2012. Completion of these questionnaires will be considered your consent to participate and an indication that you fully understood the information presented in this letter. Thank you for considering participation in this study, as your responses will be very valuable and much appreciated.

Sincerely,

Elisabeth Musch, Ed.S., M.S.
Principal Investigator and Doctoral Candidate
*****@**.*.**.***

APPENDIX I

RESEARCH CREDIT INFORMATION REQUEST

Thank you for your participation! Please answer the following questions, so that your research credit can be assigned.

Blackboard ID (e.g., em06d): _____

Course and Section No. (e.g., EME2040-05): _____

FSU E-mail Address: _____

APPENDIX J

NOTIFICATION OF FURTHER INSTRUCTIONS

Thank you for your participation! You have completed the first survey in this study.

To obtain your full one hour of research credit, you must complete one final survey. A message will be sent to your FSU E-mail address within the next 12 hours. This message will contain a link to the final survey, along with a group ID and password you will need in order to access it.

Please remember that this final survey must be completed **WITHIN 72 HOURS**.

Should you have any questions or should you for some reason not receive an E-mail with the survey link, group ID, and access code within the next 12 hours, please contact me at *****@**.*.*.*.*.

APPENDIX K

E-MAIL WITH SDS LINK, GROUP ID, AND PASSWORD

Dear Student,

You completed the first survey in the research study, “Personal characteristics and career decision making.” In order to complete your participation and receive a full one hour of research credit, you must complete one final survey. To access that survey, please click on the following link:

<http://www.self-directed-search.com>

At the above link, please click on the pencil icon labeled “Take the SDS today.” After completing the survey, you will be routed to a page requesting demographic information. **Make sure to fill out your FSU E-mail address in this section, so that you can receive credit for your completion of the survey.** At the bottom of that page, please select “Group Account” as your method of payment, then enter the following information into the appropriate spaces:

Account ID: _____

Password: _____

You will not be charged any money for receiving a report with career options related to your vocational interests. Please remember that you must complete this final survey **WITHIN 72 HOURS** of having completed the first survey. Your research credit will be applied once you have completed the survey.

Thank you for your participation,

Elisabeth Musch, Ed.S., M.S.

Florida State University

Ph.D. Candidate, Counseling Psychology and School Psychology

APPENDIX M

FOLLOW-UP E-MAIL WITH DEBRIEFING FORM

Dear Student,

Thank you for your participation in this study! Psychology researchers are interested in learning more about the impact of personality characteristics on career decision making. Some studies have indicated that perfectionism, which refers to the tendency to strive for high standards of performance and achievement, is a common personality characteristic among college students. Furthermore, different types of perfectionism may exist, in that some individuals possess high standards in conjunction with a tendency to be critical of their behavior while others possess high standards in the absence of such critical self-evaluations. Little research currently exists examining the impact perfectionism type may have on career problem solving and decision making.

The specific purpose of the present study was to examine how perfectionism type impacts college students' vocational identity, career self-efficacy, and interest differentiation. The questionnaires you answered included items to measure the tendency to strive for high standards and critically evaluate personal performance; the clarity and stability of your vocational interests, skills, and goals; and your career interests and beliefs about your ability to perform tasks related to them. Based on their responses to the questionnaires, groups of different types of perfectionists within our sample will be identified and then their scores on measures of career self-efficacy, vocational identity, and career interests will be compared.

It is difficult to answer these types of research questions, and your willingness to participate in this study is truly appreciated. Your participation will contribute significantly to knowledge concerning the career development of college students. Findings in this area play a role in improving the ability of counselors and advisors to address issues that may interfere with career problem solving and decision making among college students.

All of the information we collected in this study will be confidential, and there will be no way of identifying your responses in the data archive. We are not interested in any one individual's responses; rather, we want to learn more about the general patterns that emerge when the data are aggregated together.

We ask that you do not discuss the nature of this study with others who may later participate in it, as this could affect the validity of our data and research conclusions. If you have any questions or concerns, or if you would like to receive a summary of the findings of this research, you are welcome to talk with Elisabeth Musch by phone at (***) ***-**** or by E-mail at *****@**.*.***. Alternatively, you may contact Dr. James P. Sampson by phone at (850) 644-6885.

Should you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Vice President for the Office of Research at (850) 644-8633. If your participation in this study has caused you to feel distress, indecision, or uncertainty

about your career, you may contact the FSU Counseling Center at (850) 644-2003 or the FSU Career Center at (850) 644-6431. We suggest the following reference, in the event that you would like to learn more about this research topic:

Page, J., Bruch, M. A., & Haase, R. F. (2008). Perfectionism and Five-Factor model traits in career indecision. *Personality and Individual Differences, 45*, 811-815.

Thank you again for your participation,

Elisabeth Musch, Ed.S., M.S.

Florida State University

Ph.D. Candidate, Counseling Psychology and School Psychology

REFERENCES

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BIOGRAPHICAL SKETCH

Elisabeth Musch is a doctoral candidate in the Combined Doctoral Program in Counseling Psychology and School Psychology at Florida State University (FSU). She was born in Bangkok, Thailand; spent her formative years in Kuala Lumpur, Malaysia, Spring Hill, Florida, and Graceville, Florida; and then relocated to Calgary, Alberta, Canada to pursue her undergraduate education at the University of Calgary. Elisabeth graduated in 2004 with a Bachelor of Science (First Class Honors) in Psychology, with a minor in German.

Elisabeth began graduate school at FSU in 2006, earning a Master of Science and a Specialist in Education in Mental Health Counseling in August of 2008. Since beginning her graduate studies, she has pursued a wide range of clinical experiences, which include working as a practicum clinician at the FSU Center for Employee Assistance Services, the Franklin County Consolidated School, Tallahassee Memorial Hospital Behavioral Health Center, the FSU Adult Learning Evaluation Center, the FSU Counseling Center, the FSU Career Center, Gadsden Correctional Facility, and the Apalachee Center for Human Services. This breadth of experiences allowed Elisabeth to crystallize a passion for working with college students and develop skills in individual and group therapy; psychological and psycho-educational assessment; crisis intervention; teaching and clinical supervision; and outreach and consultation.

Currently, Elisabeth is completing her pre-doctoral internship with Oregon State University Counseling and Psychological Services, in Corvallis, Oregon. At her internship site, she is responsible for performing individual counseling; co-facilitating therapy groups related to eating disorders and trauma recovery; providing assessment, triage, and consultation services; and leading outreach workshops on conflict resolution, body image, and suicide gatekeeper training. Additionally, she serves on the OSU-CAPS Diversity Committee, works as a member

of the OSU-CAPS Sexual Assault Support Services Initiative, and acts as a liaison with campus Veterans services.

Most recently, Elisabeth has accepted a position as a post-doctoral psychology resident with the Pacific University Student Counseling Center in Forest Grove, Oregon. She is scheduled to begin this position in August of 2013. After completing her post-doctoral year, Elisabeth's plans are to continue her career in college counseling. Although she very much enjoys generalist work, she has special interests in presenting concerns related to anxiety, trauma, disordered eating and exercise, and career development. Her other areas of interest include interpersonal process work, emotion-focused therapy, acceptance and mindfulness-based interventions, group therapy, clinical supervision, and psycho-educational assessment.