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**SELF-COMPASSION AS A MEDIATOR OF THE LINK BETWEEN MALADAPTIVE
PERFECTIONISM AND DEPRESSIVE SYMPTOMS AND EATING CONCERNS**

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by

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ABSTRACT

College student mental health has recently received increased attention in higher education and the media. College and university counseling centers are faced with the challenge of providing psychological treatment for students facing a variety of mental health concerns. In order to improve treatment for college students, it could be helpful to identify therapeutic approaches that may facilitate change and improve outcomes. Two psychological problems for which college students seek treatment are depression and eating concerns, and symptoms of these can lead to risky behaviors such as suicide attempts in clients with depression and physical health problems associated with eating disorders. Previous research has shown that maladaptive perfectionism is associated with depression and eating disorders, and can precede and/or exacerbate symptoms. The concept of self-compassion involves approaching failure with kindness, viewing failure as part of the human experience, and practicing mindfulness. Although research has demonstrated the links between maladaptive perfectionism, self-compassion, depression, and eating disorders, less is known about potential mediators within these relationships. The current study examined self-compassion as a mediator of the link between maladaptive perfectionism and both depressive symptoms and eating concerns in a sample of treatment-seeking college students. In line with a recent study that supported a two-factor model of self-compassion, which identified self-disparagement and self-care as distinct factors, the mediation models in the current study were tested for both factors. Results supported all of the mediation models and demonstrated that self-disparagement in particular explained a significant amount of the variance in depression. While self-disparagement explained a significant amount of the variance in eating concerns, self-disparagement explained more of the variance in depression than in eating concerns. Examining the relative influence of each variable, results demonstrated that maladaptive perfectionism explained the most variance in outcome (i.e., depression and eating concerns), followed by self-

compassion (i.e., self-disparagement and self-care), and then the interaction of self-compassion and gender. Additionally, the mediation models were also significant for the generalized anxiety, social anxiety, academic, family, and hostility subscales, but not for substance use. Differences among the three types of perfectionists indicated that adaptive perfectionists reported the highest levels of self-compassion, maladaptive perfectionists reported the lowest levels of self-compassion, and self-compassion in non-perfectionists fell in between.

Keywords: self-compassion, self-disparagement, self-care, maladaptive perfectionism, depression, eating concerns, college student mental health, CCMH

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Chapter 1

Introduction

College student mental health in the United States is a problem that has received greater focus and attention recently. This may be related to factors including high profile legal cases resulting from student suicides, the increased demand for counseling services, or the focus on student retention among colleges and universities (Hunt & Eisenberg, 2010; Sharkin, 2004). These factors are likely to contribute to the emphasis on college student mental health problems and the pressure to be accountable to stakeholders including student affairs administrators, parents, and students. Although it is unclear whether the prevalence and severity of psychological problems is actually rising, or if there is simply a perception that this is occurring (Barr, Rando, Krylowicz, Reitz, 2010), there is evidence that college students are experiencing significant mental health problems and are seeking services in higher numbers than before (American College Health Association, 2008; CCMH, 2016; Drum, Brownson, Burton Denmark, & Smith, 2009; Hunt & Eisenberg, 2010). In fact, approximately 1.8 million college students in the United States seek services from their counseling centers each year (American College Health Association, 2008). College counseling centers are faced with the growing responsibility of managing and treating college students who are presenting with significant psychological problems.

Purpose

The purpose of this study is to contribute to researchers' and practitioners' knowledge of mental health concerns among college students by examining the relationships of depression and eating disorders to perfectionism and self-compassion. Perfectionism may influence depression and eating disorders by serving as a risk factor for these mental health problems, and self-compassion may serve as a protective factor for developing these concerns (Neff, 2003b; Slaney & Ashby, 1996). The explanation for the potential relationships between depression, eating

disorders, perfectionism, and self-compassion, and for the importance and inclusion of these variables in this study, will be discussed below.

The primary rationale for the current study is to replicate and extend previous research that established the links between maladaptive perfectionism, self-compassion, and eating concerns. One dissertation study (Stuart, 2009) found that self-compassion partially mediated the relationship between maladaptive perfectionism and eating concerns in a single-site, non-clinical sample of college students. Additionally, data from the CCMH practice-research network has indicated that clinicians report depression as a presenting concern in 49% of their clients and eating concerns as a presenting concern in 13.5% of their clients, suggesting that they are fairly common areas of distress for college students seeking treatment.

The secondary rationale for examining both depression and eating disorders specifically is that there are already strong established relationships between both depression and perfectionism and eating disorders and perfectionism (e.g., Bardone-Cone, 2007; Castro & Rice, 2003; Flett, Hewitt, & Dyck, 1989; Kawamura, Hunt, Frost, & DiBartolo, 2001; Olson & Kwon, 2008; Rice & Van Arsdale, 2010). In the existing literature, depressive symptoms and eating concerns both have been shown to share a negative cognitive style that often serves to maintain and exacerbate symptoms (Alloy, Abramson, & Francis, 1999; Haefel, 2008). A negative cognitive style is characteristic of maladaptive perfectionists, and stands in contrast to the ways self-compassionate individuals view themselves, others, and the future. It seems that maladaptive perfectionism and self-compassion actually represent opposite ways of navigating the world. Therefore, the inclusion of perfectionism and self-compassion in the current study may provide greater clarity into their relationships with eating concerns and depressive symptoms.

The tertiary rationale for focusing on depression and eating disorders specifically is that they can be severe and high-risk psychological problems. It is known that depression is associated with a greater risk of suicide and that eating concerns can sometimes be lethal (Keel, Dorer,

Eddy, Franco, Charatan, & Herzog, 2003; Kisch, Leino, & Silverman, 2005). Often these two psychological problems necessitate urgent interventions where clinicians have to balance more immediate needs and ongoing psychotherapy goals.

Self-compassion was initially described in the psychological literature in 2003 (Neff) as an alternative, kinder way of viewing oneself in light of failure. There are three components of self-compassion: kindness toward self, common humanity, and mindfulness (Neff, 2003a, 2003b). Since its inception there have been approximately 200 studies published on self-compassion, and the existing research demonstrates that self-compassion is associated with higher levels of well-being and lower levels of psychological distress (Hayes et al., 2016; MacBeth & Gumley, 2012; Neff & McGehee, 2010; Van Dam et al., 2011; Yarnell & Neff, 2013). While there is considerable research examining self-compassion in clinical samples of adults and healthy samples of college students, less research exists on treatment-seeking college students (Hayes et al., 2016; Lockard et al., 2014; Van Epps, 2015). In addition to the lack of research using clinical samples of college students, there is a gap in the literature related to self-compassion and its potential role as a mediator of psychological distress in treatment-seeking college students.

The current study addresses a gap in the literature by exploring whether self-compassion serves as a mediator in the relationships between perfectionism and psychological distress, specifically depressive symptoms and eating concerns. While the current study will replicate previous research examining self-compassion as a mediator between maladaptive perfectionism and eating concerns, it will also extend this study by including depressive symptoms as a second measure of distress. The rationale for including eating concerns and depression is that they both share a negative cognitive style which may drive some of the symptoms associated with these concerns, and both are associated with increased risk factors and lethality. This study may demonstrate that self-compassion can provide a buffer against the development of psychological

distress for college counseling center clients who exhibit negative and maladaptive aspects of perfectionism.

Empirical Rationale for Study

Depression is widespread among college students seeking treatment and 8.3% have reported being diagnosed or treated for depression (American College Health Association, 2011). Additionally, 28.4% of college students reported feeling so depressed that it was difficult to function (American College Health Association, 2011). Recent data from college counseling center clinicians indicate that depression is a presenting concern for 49% of clients seeking treatment, and a primary presenting concern for 18.1% of students seeking treatment. Depression is a leading cause of suicide, and 6% of college students reported seriously considering suicide and 1.3% reported attempting suicide (American College Health Association, 2011). More recently, CCMH data indicate that 33.2% of college students “seriously contemplated suicide” and 9.3% “made a suicide attempt” (2016). A college student presenting with symptoms of depression or a diagnosis of a depressive disorder may be experiencing symptoms including low mood, loss of interest or pleasure in activities, significant weight loss or gain, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or excessive guilt, difficulty concentrating and making decisions, and recurrent thoughts of death or suicide. Given this severe constellation of symptoms, it is imperative that college counseling centers take measures to understand, prevent, and treat this psychological problem.

Eating disorders have also been recognized as a serious mental health problem in the United States, particularly among college-aged women. It has been estimated that between 10-25% of college women engage in some type of disordered eating (Kirk, Singh, & Getz, 2001; Meyer, 2005; Prouty, Protinsky, & Canady, 2002). Data from clinician reports also indicate that therapists in college counseling centers indicate that approximately 13.5% of students present

with eating concerns (CCMH, 2016). College students presenting with symptoms of an eating disorder (e.g., Anorexia Nervosa or Bulimia Nervosa) may report a refusal to maintain normal body weight, intense fear of gaining weight, disturbance in body image, and recurrent episodes of bingeing and purging (APA; American Psychiatric Association, 2000). Given the prevalence and severity of eating disorders among college students, it is important that researchers and clinicians identify risk factors that may help explain why some students develop these problems and protective factors that may provide a buffer against developing them. Prior research has pointed to a variety of risk factors linked to eating disorders including, but not limited to, thin-ideal internalization (Stice, 2002; Wichstrom, 2000), negative affect (Wertheim et al., 2001; Wichstrom, 2000), and substance use (Stice & Agras, 1998).

A risk factor that has been demonstrated to be linked to both depression and eating disorders is perfectionism (e.g., Bardone-Cone et al., 2007; Wang, Puri, Slaney, Methikalam, Chadha, 2012). One reason that eating disorders and depression are difficult to treat and often long-standing problems is their correlation with maladaptive perfectionism (e.g., Bardone-Cone et al., 2007; Bardone-Cone, Weishuhn, & Boyd, 2009; Kawamura, Hunt, Frost, & DiBartolo, 2001; Rice et al., 1998). Perfectionism has been shown to have both adaptive and maladaptive components (Suddharth & Slaney, 2001; Terry-Short, Owens, Slade, & Dewey, 1995). The maladaptive dimension of perfectionism is related to greater psychological problems because there is typically a perceived gap, referred to as discrepancy, between one's high standards and one's actual performance (Slaney et al., 2001). When this type of discrepancy exists, it may make it more challenging for an individual to cope with psychological distress. Additionally, the presence of discrepancy may be even more pronounced in college students, for whom high standards and parental expectations are particularly influential. Maladaptive perfectionism is present in college students at both competitive private colleges and less competitive public

universities, suggesting that this problem exists across cross types of institutions (Hibbard & Davies, 2011).

Maladaptive perfectionism is relevant to college student mental health as it is a common trait among this population (Rice and Slaney, 2002) in which academic success is important and self-criticism associated with perfectionistic thinking and behavior is fairly high (Grzegorek, Slaney, Franze, & Rice, 2004). The role of discrepancy in psychological distress is of particular interest in this study, because maladaptive perfectionistic college students may have fewer internal resources for coping with this problem. In fact, research on maladaptive perfectionism, and the role of discrepancy in particular, among college students has demonstrated that these individuals are likely to be more self-critical, have lower self-esteem, and experience greater shame (Ashby & Rice, 2002; Ashby, Rice, & Martin, 2006).

One of the gaps in previous literature on depression, eating disorders, and perfectionism is the lack of attention to potential explanatory mechanisms. Given that college students may be at an increased risk for depression and eating disorders during this period of developmental transition, it is important that counseling center clinicians identify explanatory factors, risk factors and potential protective factors for the development of these disorders. The strong relationships between maladaptive perfectionism, eating disorders, and depression may be better explained and understood within the context of protective psychological factors. It seems probable that college students who are both perfectionistic and suffer from depression and eating disorders have fewer internal resources for managing the self-criticism and self-judgment that characterize these problems and lead to developing a negative cognitive style. If these students do have fewer internal resources, this highlights a need for researchers and clinicians to identify protective factors that can buffer against the development of psychopathology.

One potential mechanism, or mediator variable, for explaining the relationships between maladaptive perfectionism, eating disorders, and depression, is the concept of self-compassion.

With its origins in Buddhism, self-compassion may address both the self-critical and perfectionistic ways of thinking that are common among counseling center clients with eating disorders and depression. Self-compassion is a newer idea in Western psychology that offers an alternative way to understand and treat oneself when faced with failure or imperfection (Neff, 2003b). It has been defined as the ability to accept personal suffering without trying to minimize or dismiss it, and also to attempt to cope with and grow from this suffering through self-kindness. Self-compassion is composed of three interrelated parts including self-kindness, mindfulness, and common humanity. The core of self-compassion is an emphasis on being nonjudgmental toward oneself, and on accepting one's personal pain, failures, and inadequacies as part of the larger human experience. Self-compassion may provide a buffer against developing eating concerns and depressive symptoms that are common among maladaptive perfectionists. Additionally, fostering self-compassion in treatment-seeking college students may be a helpful approach to treatment and may be an important skill to cultivate for maladaptive perfectionistic individuals who tend to be highly self-critical.

In fact, a recent dissertation study utilizing a non-clinical sample of college students at a single university found that self-compassion mediated the relationship between maladaptive perfectionism and eating concerns (Stuart, 2009). Additionally, Mehr and Adams (2016) provided support for the role of self-compassion as a mediator of the relationship between maladaptive perfectionism and depression in university students. Given these previous findings, the current study hypothesizes that self-compassion will also mediate the relationships between maladaptive perfectionism and psychological distress, specifically eating concerns and depressive symptoms, in a multi-site clinical sample of college students.

Overall, the goal of this study is to examine the relationships between maladaptive perfectionism, eating disorders, and depression, and how self-compassion may influence and help to explain these relationships. Two compelling reasons to examine both depression and eating

concerns is that they both share a negative cognitive style and are associated with increased risk of lethality, often requiring an urgent response, and this rationale will continue to be reviewed in the following chapters. Self-compassion serves as a valuable way of approaching mental health problems such as eating disorders and depression that are associated with maladaptive perfectionism, because it emphasizes self-kindness and self-acceptance which many clients who experience these disorders may be lacking. Counseling center clinicians may benefit from having knowledge of self-compassion in order to inform their treatment of clients who suffer from eating disorders and depression associated with perfectionism.

Chapter 2

Literature Review

Introduction

The following section reviews the literature on the state of college student mental health and the reality that students are presenting at college centers with significant psychological problems. The research on maladaptive perfectionism will be reviewed and discussed in light of several other variables related to this construct. Specifically, the research on eating concerns and depressive symptoms and how these two mental health problems are related to maladaptive perfectionism is reviewed. Additionally, the concept of self-compassion is presented and explored as a potential protective factor that may buffer against the psychological problems resulting from discrepancy. Finally, hypotheses for this study are presented.

College Student Mental Health

College students are reporting significant histories of mental health problems prior to starting college and during their time as college students (Kadison & DiGeronimo, 2004; Kitzrow, 2003). College administrators and college counseling center clinicians believe that the prevalence and severity of mental health problems is rising (Barr, Rando, Krylowicz, Reitz, 2010). In a recent survey of university counseling center directors, 77% believed that the number of students with serious psychological problems increased within the past year (Barr et al., 2010). Additionally, another survey of university counseling center directors found that 91% of directors believed that there are greater numbers of students with severe psychological problems on college campuses (Gallagher, 2010). There is certainly a shared perception among college counseling center directors that students are in significant distress and are seeking mental health services in greater numbers for their problems (Locke, Bieschke, Castonguay, & Hayes, 2012). Data from counseling centers indicate that there is high demand for mental health services and that rates of “risk to self” are concerning (CCMH, 2016).

While the rates of prior mental health treatment have remained relatively constant over the past six years, many students are arriving on campus with a history of participating in counseling, taking psychiatric medication, or being hospitalized. Clinical data from a sample of approximately 150,000 college students seeking services from counseling centers shows that 50% have participated in counseling in the past; 20.2 prior to college, 16.7 after starting college, and 13.1% both prior to and after starting college. Additionally, 33.1% have taken a psychiatric medication in the past; 8.9% prior to college, 12.9% after starting college, and 11.3 both prior to and after starting college. Regarding hospitalization, 9.6% had been hospitalized before college, during college, or both (CCMH, 2016). Rates of “threat to self” which refers to non-suicidal self-injury and seriously contemplating suicide have increased steadily over the past six years. In the same report, 25.8% of students seeking services reported self-injurious behavior and 33.5% reported serious suicide contemplation (CCMH, 2016). These statistics are alarming and compelling, indicating that college students are presenting at college counseling centers with significant risk factors and in considerable distress.

Using routine clinical data gathered through the CCMH practice research network, students seeking mental health services from college counseling centers were compared to students in the general campus population, and results indicated that students seeking services reported greater psychological distress than students not seeking services (Castonguay, Locke, & Hayes, 2011). The results show that a clinical sample of students report significantly higher levels of depression, generalized anxiety, social anxiety, family distress, eating concerns, hostility, and academic distress than non-clinical general campus populations. Substance use did not show any significant differences (McAleavey, Nordberg, Hayes, Castonguay, Locke, & Lockard, 2012). This study suggests that students seeking mental health services at university counseling centers are indeed in greater distress than students in the general population.

Colleges and universities are being expected to manage and treat students who may arrive with a history of psychological concerns, and who develop mental health problems during their time in college. College counseling centers are tasked with providing education, outreach, consultation, treatment, triage, and crisis intervention for a growing number of students with mental health problems (Bishop, 2006). Two mental health problems that are prevalent among college students are depression and eating disorders. These concerns are problematic due to the increased risk for suicide associated with depression (Kisch, Leino, & Silverman, 2005) and the potential lethality associated with physical problems resulting from eating disorders (Keel, Dorer, Eddy, Franco, Charatan, & Herzog, 2003). Additionally, previous research has already demonstrated the links between perfectionism, self-compassion, and eating concerns (Stuart, 2009), and thus it seems valuable to replicate and extend this study by including depression as a second outcome measure, given its prevalence among college students seeking treatment.

Although these psychological concerns often require more extensive and comprehensive interventions to treat, there is also evidence that symptoms of depression and eating disorders often can be treated effectively with short-term interventions provided at college counseling centers (Draper, Jennings, Baron, Erdur, & Shankar, 2002). For example, due to the negative cognitive style that is characteristic of depression and eating disorders, cognitive-behavioral approaches can be helpful by providing some symptom relief and addressing unhelpful ways of thinking within short-term models (Draper et al., 2002). Given the limited resources and funding that many counseling centers are afforded, it is important for clinicians to understand the potential protective factors against developing depression and eating disorders, as well as the possible methods of treating these concerns. One reason it is important for clinicians to be cognizant of protective factors is that specific therapeutic approaches may help students cope with depression and eating disorders, which may facilitate quicker symptom reduction. Additionally, the presence

of protective factors may indicate why some students develop symptoms of eating disorders and depression while others do not.

There are significant limitations to existing research on mental health problems in college students. A primary limitation is that research tends to be focused on a single site (e.g., an individual counseling center) and difficult to generalize to the general population of college students seeking mental health services (Locke et al., 2012). Another potential problem is that much of the existing research is limited by being anecdotal or based on clinician reports, rather than actual data that reflects how college students report psychological distress. The present study aims to address these limitations and improve generalizability by gathering data on psychological distress from students receiving mental health services from several university counseling centers. Perhaps what makes the current study compelling is that data will be gathered from multiple university counseling centers through a national practice research network (PRN) called the Center for Collegiate Mental Health (CCMH). This model of collecting data contributes to both research on college student mental health and clinical practice, which can lead to more informed treatment of psychological problems.

Depressive Symptoms in College Students

College students experience developmental changes that are accompanied by a variety of stressors, including living independently from family, taking greater responsibility for their lives, navigating a new social environment, and succeeding academically (Clark, 2005). It is imperative that counseling center clinicians understand how students learn to cope with these stressors, given that they are normal developmental tasks. With this knowledge clinicians can better determine why some students develop depression and depressive symptoms. Depression and depressive symptoms are particularly problematic for college students as they can greatly interfere with overall functioning, academic success, and retention in college. Depression is a significant concern for college students and can be associated with higher levels of anxiety and suicidal

ideation (Eisenberg, Gollust, Golberstein & Heffner, 2007b), alcohol abuse (Weitzman, 2004), eating disorders (Godart, Perdereau, Rein, Berthoz, Wallier, Jeammet & Flament, 2007) and academic problems (Haines, Norris, & Kashy, 1996; Heiligenstein & Guenther, 1996). While not all students who are depressed seriously contemplate suicide or attempt suicide, depression is shown to be a strong risk factor for suicide (Garlow, Rosenberg, Moore, Haas, Koestner, Hendin, Nemeroff, 2008). Given the risk of suicide, depression in college students is not just a psychological problem to be treated, but an issue of safety and one that may necessitate urgent intervention.

Depression and depressive symptoms in college students have been a large focus of recent literature. While it is challenging to determine the prevalence of depressive disorders among the general college student population, some researchers have examined this problem. The American College Health Association found that 36.7% of college students reported being depressed to the point that it was difficult to function (American College Health Association, 2016). One single-site study of mental health problems in college students found that depression and depressive symptoms were the most prevalent issues and approximately 13-15% of the general student population reported depressive symptoms (Zivin, Eisenberg, Gollust, & Golberstein, 2009). Additionally, a survey of counseling center directors found that 38% of college students seeking mental health services per year reported symptoms of depression (Barr et al., 2010). While this survey reflects the reality that depression and depressive symptoms are significant concerns among college students, the data was based on reports by clinicians rather than data from counseling center clients' self-reports. In a single-site study examining the rates of mental health problems among counseling center clients, clinicians reported that there was an increase in clients being diagnosed with depressive disorders (Benton et al., 2003). Data examined within this particular counseling center over the 13-year period showed that the number of students presenting with depression and depressive symptoms doubled and the number of

students presenting with suicidal ideation tripled. Although this study provides some evidence that depression and depressive symptoms are becoming more prevalent among students, it is limited by examining data from a single counseling center that was based only on clinician reports.

One way to expand upon research focusing on single site counseling centers is to collect data from a national consortium of college counseling centers. There are few studies that examine change in depressive symptoms among college students seeking psychological services, however one study demonstrated that treatment is effective (Boswell, 2009). Using data from the Center for Collegiate Mental Health (CCMH) practice research network, it was found that short-term treatment delivered by counseling center therapists is effective in treating symptoms of depression. For this sample of approximately 1500 clients representing a variety of counseling centers, symptoms of depression decreased significantly over a six-week period. Also, clients who indicated more severe depressive symptoms at initial data collection, compared to the remainder of the sample, reported greater decreases in depressive symptoms over the course of the six weeks in treatment (Boswell, 2009). This study provides a compelling argument to continue collecting data about depressive symptoms from a larger practice research network of counseling centers, rather than a single site. This broad approach to collecting data on treatment-seeking college students can more easily be generalized and has the potential to inform and improve mental health service delivery. Large practice research networks such as CCMH are well-equipped to gather clinically meaningful data in an ongoing, consistent, and efficient way, as opposed to single-site data collection. By drawing from a large national sample of college students actively seeking services, researchers and clinicians are able to gain a deeper understanding of depression symptomatology in college students, as well as treatment outcomes when examining change in symptoms over time.

Research has shown that psychological problems such as depression and depressive symptoms are persistent and widespread among college students, and can often worsen when students experience barriers to seeking professional help (Zivin, Eisenberg, Golberstein, & Gollust, 2009). Some barriers to help-seeking among college students include social stigma, belief that mental health services are not needed, uncertainty about whether services will be helpful, and low socioeconomic status (Eisenberg, Golberstein, & Gollust, 2007). When students perceive these barriers to seeking help, depression and depressive symptoms may become more severe and difficult to treat. One single-site examining college students' depressive symptoms over time found that for students who had at least one psychological problem at baseline (including depression and depressive symptoms), 60% had at least one mental health problem two years later (Zivin et al., 2009). This study also demonstrated that less than half of these students reported engaging in any type of mental health treatment. In another single site study, Garlow et al. (2008) found that 85% of students who endorsed symptoms of moderate to severe depression had not received any type of mental health treatment. Together, these studies suggest that many college students who experience depressive symptoms are not seeking treatment, perhaps for a variety of reasons including barriers to help-seeking. Given the increased risk of suicide among students who are depressed, it seems critical for counseling centers to demonstrate to their stakeholders (e.g., students, parents, university administrators) that they are providing effective outreach and mental health treatment to this vulnerable population.

There is limited research that examines the effectiveness of treatment for depression and depressive symptoms among college students, specifically services provided by college and university counseling centers. Surprisingly, given the large numbers of students seeking treatment for depression at university counseling centers, Miller and Chung (2009) only found four relevant studies examining treatment and outcomes. All four studies examined change over time in depressive symptoms among samples of undergraduate students taking general psychology

courses. Although some of the participants were receiving mental health services, these studies did not utilize treatment-seeking samples exclusively. Additionally, none of the studies examined university counseling centers specifically, and the treatment outcomes for those students seeking services for depression. Although research has demonstrated that depression and depressive symptoms can be treated effectively with a variety of therapeutic approaches beyond cognitive behavioral therapy (Wampold, Minami, Baskin, & Tierney, 2002), it may be important to understand what types of approaches are most effective given that college counseling centers typically operate within short term therapy models.

The previous studies of depression, depressive symptoms, and treatment in college students provide some evidence that this is a widespread mental health problem requiring ongoing and more nuanced research. There are several limitations to the research described above. With the exception of the CCMH multi-site study (Boswell, 2012), all of the existing studies are single-site and limited to an individual counseling center and based on non-clinical samples such as undergraduates enrolled in psychology courses, or therapist reports of clients' presenting concerns. Given these limitations, it is difficult to generalize the findings to treatment-seeking college students. One way to widen the scope and improve the generalizability of this type of research is to gather data on depression and depressive symptoms across a larger network of counseling centers, rather than a single site. It may be more accurate and beneficial to gather data from counseling center clients about their depressive symptoms through self-report measures. Therefore, using a multi-site approach to data collection can add more breadth and depth to the existing research on depressive symptoms in college students.

Eating Concerns in College Students

Previous research demonstrates that eating disorders and eating concerns in the general population are frequently severe, persistent, and challenging to treat, which can lead to clients moving through levels of care from outpatient to intensive outpatient, partial hospitalization, and

hospitalization (Stein et al., 2001; Zipfel et al., 2002). On college campuses, eating disorders and eating concerns have gained more attention as significant mental health problems that often require a treatment team approach, though less is known about how to effectively treat students with eating disorders within the college setting. There is some evidence that eating disorders can be prevented among college students who are identified as high risk through cognitive behavioral approaches (Taylor, Bryson, Luce, Cuning, Doyle, Abascal, Rockwell, Dev, Winzelberg, & Wilfley, 2006), however there is a lack of research indicating what types of treatment are particularly effective in this setting. Colleges and universities are faced with the responsibility of ensuring the safety of students with eating disorders and also with providing psychological treatment that allows students to persist in school. Very few colleges have created integrated and systematic programs on their campuses to treat eating disorders; it is more common that students with eating disorders receive care that is neither well-coordinated nor comprehensive from a variety of providers on and off campus (Schwitzer, Bergholz, Dore, Salimi, 1998). Research examining eating disorders among college students, and in particular interventions that can decrease distress and improve overall functioning, is essential.

Eating disorders and eating concerns in college students are concerning to college administrators, counseling center clinicians, parents, and students because of their challenging nature to treat and potentially harmful and sometimes lethal physical health consequences (Kaplan & Garfinkel, 1999). College students with eating disorders often present in high distress if they are seeking services at counseling centers. However, it is typical for students with eating disorders to wait to seek services until their problems are more severe and entrenched, or when a physical or emotional crisis necessitates an intervention. Barriers to students with eating disorders and eating concerns seeking professional help may include fear of judgment and stigma, shame and embarrassment, absence of a sense of importance or urgency, ambivalence about making changes, and financial cost of mental health services (Hepworth & Paxton, 2007). Despite these

barriers, reasons that may prompt college students to seek help can include: symptoms worsening over time, increased emotional distress, inability to manage academic and personal responsibilities, physical health issues, and interest or curiosity about treatment (Hepworth & Paxton, 2007). Additionally, stakeholders such as university administrators are uniquely positioned to advocate for the addition of resources at college counseling centers to increase visibility, outreach effects, and availability of treatment for students with eating concerns. Since previous research has shown that students with eating disorders and eating concerns may be more likely to have lower GPAs and to drop out of college prematurely, it seems crucial to encourage students to seek treatment in order to improve retention and graduation rates (Eisenberg, Golberstein, & Hunt, 2009).

Eating disorders are a major mental health concern that are prevalent at colleges and universities, and often considered to be difficult to diagnose and treat. Researchers and clinicians believe that eating disorders are rooted in a complex etiology and typically persist over time due to a variety of influences such as biological, psychological, interpersonal, and sociocultural factors (Striegel-Moore & Cachelin, 2001). Although few women meet the stringent diagnostic criteria for an eating disorder, some studies have reported that between 25-40% of college women (who are not engaged in mental health treatment) endorse moderate eating concerns (Schwitzer, Rodriguez, Thomas, & Salimi, 2001). Adding to the worry about high rates of eating concerns on college campuses, a single-site study of non-treatment-seeking students found that between 18-19% of students likely met diagnostic criteria for an eating disorder (Zivin, Eisenberg, Gollust, & Golberstein, 2009). Eating disorders are highly comorbid with other psychological problems, including mood, anxiety, and substance use disorders, which can make treatment more difficult, complex, and long-term (Hudson, Hiripi, Pope, & Kessler, 2007). In a survey of counseling center directors, it was reported that eating disorder symptoms affect approximately 7% of college students seeking mental health services per year (Barr et al., 2010). More recently, data

on 51,567 clients seeking treatment from the 2016 CCMH Annual Report reflected the frequency with which college students are reporting eating concerns. In this case, clinicians indicated that 13.5%, approximately 6,700 clients, presented with eating disorder and body image concerns. Researchers have provided a variety of explanations about why eating concerns and eating disorders are so prevalent among college students, particularly women. Some of those include: emotional distress related to the college transition, discomfort with developmental changes in the body, greater autonomy to control and monitor food consumption, and exposure to friends and peers that emphasize thinness, such as sororities and elite sports teams (Stuart, 2009).

Although eating disorders have traditionally been viewed as problems specific to white women, research has demonstrated that eating disorders are also widespread and present in men, ethnic, and sexual minorities, but may go unnoticed or be misdiagnosed by clinicians due to stereotypes (Nelson, Castonguay, & Locke, 2011). Nelson et al.'s study examined myths and stereotypes about eating and body image concerns, and how these problems affect college students seeking mental health services from a variety of backgrounds. Contrary to existing stereotypes, results demonstrated that counseling center clients who identify as male, sexual minorities, and racial/ethnic minorities also endorsed symptoms related to eating disorders and body dissatisfaction (Nelson et al., 2011). Many students that do not meet existing stereotypes of eating disorder clients and may be vulnerable to being misdiagnosed or overlooked (i.e., minority women, bisexual and questioning women, and gay men) reported similar and even higher levels of distress related to eating concerns than white women (Nelson et al., 2011). Supporting Nelson et al.'s findings, additional research has shown that treatment-seeking sexual minority college women endorse significant eating concerns (Maloch et al., 2013). Examining the nuances of sexual orientation and eating concerns, Maloch et al.'s study found that bisexual women in particular reported significantly higher levels of eating concerns than lesbians. Other studies exploring the rates of eating disorders in men (Feldman & Meyer, 2007), sexual minority women

(Share & Mintz, 2002; Wichstrom, 2006), and ethnic minority women (Bay-Cheng, Zucker, Stewart, & Pomerleau, 2002; McCourt & Waller, 1995) have been inconclusive. Some of the studies indicated that prevalence varied among groups and some found no difference in prevalence among groups.

Previous research has examined the effectiveness of eating disorder treatment in the general population, mostly through the use of cognitive behavioral interventions (e.g., Murphy, Straebl, Cooper, & Fairburn, 2010; Vocks, Tuschen-Caffier, Pietrowsky, Rustenbach, Kersting, & Herpertz, 2010). Cognitive behavioral approaches appear to be the most common treatment modality that have been studied and may be appropriate for short term therapy provided by many college counseling centers. However, there is also a need for other treatment modalities because of the high rate of relapse (Satir, 2011) and the likelihood that a “one size fits all” approach to treatment will not work with all clients. Given the likelihood of relapse among clients with eating disorders, this raises questions about the potential cost of treatment, which can be burdensome for college counseling centers, most of which have fairly limited budgets and resources. Although little is known about the cost of eating disorder treatment in college settings, research has found that the financial cost of providing treatment for eating disorders is high in outpatient and inpatient settings, suggesting that prevention efforts are critical prior to and during college (Simon, Schmidt, & Pilling, 2005). Given that the cost of integrated and comprehensive treatment for eating disorders would likely be high for college counseling centers, it may be important for more counseling centers to develop multidisciplinary teams in order to efficiently and effectively meet the needs of students.

In summary, the research on eating disorders and eating concerns in treatment-seeking college students is limited, and few studies have been conducted by or in collaboration with counseling center clinicians. However, this is beginning to shift particularly due to research conducted in collaboration with counseling center clinicians through the Center for Collegiate

Mental Health (CCMH). Historically, given the heavy demands to provide direct clinical services, counseling centers have been forced to rely on retrospective, anecdotal, and single-site research from clinical college student samples that were difficult to generalize (Castonguay, Locke, & Hayes, 2011). It seems vital for researchers who are familiar with providing treatment, and clinicians who are interested in research, to examine the factors that may contribute to eating disorders in college counseling center clients within a large practice research network such as CCMH.

While the prevalence of depressive symptoms and eating concerns are of particular concern to counseling center clinicians, the current study will explore how two concepts, perfectionism and self-compassion, may serve as risk and protective factors in the development of these mental health problems in college students. The next section will describe how the concepts of perfectionism and self-compassion may be present in treatment-seeking college students and whether there are implications for the psychological treatment of depressive symptoms and eating concerns. Perfectionism, particularly maladaptive perfectionism, is a central focus of this study because it describes the type of college student who is self-critical, who struggles to meet their unrealistic high standards, and who has difficulty being kind to themselves after failure. Individuals with depression and eating concerns share a similar negative cognitive style that can maintain and exacerbate symptomatology. For this reason, maladaptive perfectionism serves as an appropriate construct for examining the negative cognitive style that can be characteristic of clients with depression and eating concerns. Given the likelihood that perfectionism is prevalent among college students who strive to excel and meet high expectations, it is important to examine how this construct is related to psychological distress. The following sections will review the relevant research on perfectionism and discuss how maladaptive perfectionism as a risk factor may contribute to mental health problems such as eating concerns and depressive symptoms.

Perfectionism

Perfectionism has been described as a concept that has both adaptive and maladaptive aspects (Suddharth & Slaney, 2001; Terry-Short, Owens, Slade, & Dewey, 1995). However, researchers have not agreed on a universally accepted definition (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Although there is some disagreement about how to measure this construct, researchers have described and measured perfectionism through the development of three important instruments. These three measures are noteworthy in that they examine multiple dimensions of perfectionism, however one measure in particular assesses both adaptive and maladaptive aspects of perfectionism using the concept of discrepancy (Slaney et al., 2001). This measure, the Almost Perfect Scale-Revised (APS-R, Slaney et al., 2001) will be used to assess maladaptive perfectionism in this study because it has been used widely with college students, and it describes discrepancy as the primary way to distinguish between adaptive and maladaptive perfectionists. Three primary measures of perfectionism are briefly reviewed and the APS-R is introduced as the measure that will be utilized in the current study. Although the measure of perfectionism being used in the current study is the APS-R, much of the research utilizes the three measures separately or in conjunction so it will be useful to describe them below.

One measure, the Multidimensional Perfectionism Scale (MPS; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991) assesses three aspects of perfectionism: self-oriented, other-oriented, and socially prescribed perfectionism. The MPS has been studied in non-treatment seeking college students and adults, and research has shown the MPS to be correlated with several psychological concerns including suicidality (Hewitt, Flett, & Turnbull-Donovan, 1992), depression and low self-esteem (Flett, Hewitt, Blankstein, & O'Brien, 1991), anxiety (Flett, Hewitt, Dyck, 1989), and eating disorder symptoms (Hewitt, Flett, & Ediger, 1995). A second measure, the Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lehart, & Rosenblatt, 1990) measures aspects of perfectionism including excessive concern over making

mistakes, high personal standards, belief about high parental expectations, the perception of parental criticism, the doubting of the quality of one's actions, and a preference for order and organization. This measure has also been used with non-treatment seeking college students and adults, and the FMPS has been shown to be correlated with concerns such as depression and obsessive-compulsive traits (Frost, Marten, Lehart, & Rosenblate, 1990), eating concerns (Srinivasagam, Kaye, Plotnicov, Greeno, Weltzin, & Rao, 1995), and social anxiety (Juster, Heimberg, Frost, Holt, Mattia, & Faccenda, 1996). Both the MPS and the FMPS measures are well-established and have been utilized in numerous studies on perfectionism. One strength of the MPS and FMPS is their ability to examine perfectionism on several dimensions, however both measures describe more of the negative characteristics of perfectionism.

A third measure, and the one that will be used in the current study, is the Almost Perfect Scale-Revised (APS-R), developed by Slaney et al. (2001). The APS-R is a multidimensional instrument assessing perfectionism that has been developed and normed on college students specifically, which makes it a relevant and appropriate measure for the current study. One strength of the APS-R is that it provides a comprehensive way of examining both positive and negative aspects of perfectionism. In the scale development study Slaney et al. (2001) established a three-factor measure of perfectionism, which includes high standards, orderliness, and discrepancy. This model of perfectionism describes the positive and negative aspects of perfectionism and establishes these three components as "virtually independent" (p. 143). Slaney et al. (2001) identified the concept of discrepancy as a helpful way to define and identify maladaptive perfectionism, particularly among college students. Discrepancy, which describes the negative aspects of perfectionism, highlights the gap between one's high standards and their performance, which contributes to distress. Slaney et al.'s (2001) model suggests that, in contrast to discrepancy, high standards and orderliness refer to the positive or adaptive aspects of perfectionism. Although the combination of high standards and low discrepancy may be adaptive

and associated with higher functioning, the combination of high standards and high discrepancy can lead to maladaptive perfectionism and contribute to increased psychological distress (Slaney et al., 2001).

Maladaptive perfectionism may be a useful way of understanding mental health problems in college students, given that research has shown that it can precede the development of psychological problems such as eating disorders in adults seeking psychological treatment (Fairburn, Cooper, Doll, & Welch, 1999). Maladaptive perfectionism in college students can be conceptualized as an underlying problem in many mental health concerns, and has been linked using the three measures of perfectionism described above, to multiple psychological problems, including anxiety, depression, eating disorders, alcohol abuse, and academic problems (e.g., Bardone-Cone, 2007; Castro & Rice, 2003; Flett, Hewitt, & Dyck, 1989; Kawamura, Hunt, Frost, & DiBartolo, 2001; Olson & Kwon, 2008; Rice & Van Arsdale, 2010). Specifically, maladaptive perfectionism as measured by the APS-R, may be a substantial risk factor in the development of eating disorders and depression, particularly due to its negative relationship to self-esteem (Ashby & Rice, 2002).

The negative aspects of perfectionism, specifically the concept of discrepancy, can cause significant distress in college students for whom academic performance is crucial. A survey of college students in psychotherapy reported that more than 26% of women and 21% of men described their perfectionism as “quite distressing or extremely distressing” (Research Consortium of Counseling and Psychological Services to Higher Education, 1995). Perhaps even more interesting is that even though maladaptive perfectionism results in distress, perfectionists are often rigid and uninterested in changing their perfectionistic thoughts and behaviors. Two qualitative studies of non-clinical undergraduate students using the APS-R found evidence for this tendency and described the ambivalence characteristic of perfectionists (Slaney & Ashby, 1996; Slaney, Chadha, Mobley, & Kennedy, 2000). Although perfectionism can be quite

distressing, none of the college students in these two studies wanted to change their perfectionism. This finding is noteworthy and suggests that perfectionism's positive and negative components may lead to perfectionism being a type of strength or resource, but also a potential impediment to functioning as a college student.

The concept of discrepancy is particularly important in the current study because it may provide an explanation for what is underlying the symptoms of depression and eating concerns that college students report in therapy. If students are setting unrealistic or unattainable standards for their performance and believe that they never meet those standards, whether related to performance in school or weight and body image, discrepancy may likely be playing a role. These students may be more susceptible to depressive symptoms and eating concerns when discrepancy is high, perhaps indicating a need for counseling center clinicians to examine the presence of discrepancy with their clients. Maladaptive perfectionism, and discrepancy in particular, leads to significant distress and likely serves as a risk factor for the development of depressive symptoms and eating concerns. Given that maladaptive perfectionism has been shown to be a substantial risk factor for mental health problems (Slaney et al., 2001), it is vital to understand how clinicians can use this information to address discrepancy and help clients gain insight and develop better coping skills.

In order to continue establishing the basis for the current study, the following section will examine the relationship between maladaptive perfectionism and depression, particularly the role of discrepancy and how this cognitive approach may contribute to depression among perfectionists.

Perfectionism and Depressive Symptoms

Given that the construct of perfectionism has been established as having both adaptive and maladaptive components, it is reasonable to assume that maladaptive perfectionism may be the aspect of perfectionism that is most associated with psychological problems. Indeed, the link

between maladaptive perfectionism and depression has been demonstrated in the psychological literature. In a sample of non-treatment-seeking college students, maladaptive perfectionism was shown to be positively related to depression whereas adaptive perfectionism was shown to be negatively related to depression using the FMPS (Kawamura, Hunt, Frost, & DiBartolo, 2001). This relationship remained significant after controlling for three types of anxiety, showing the strength of the relationship between perfectionism and depression. Maladaptive perfectionism, as measured by the APS-R and FMPS, has been shown to contribute directly to depression, and this result is consistent with previous research indicating that maladaptive perfectionism is significantly associated with depression (Wei, Mallinckrodt, Russell, & Abraham, 2004). Additionally, there is evidence of cross-cultural validity of perfectionism. In one study of non-treatment-seeking college students in India, maladaptive perfectionism as measured by the APS-R was found to be significantly associated with depression (Wang, Puri, Slaney, Methikalam, Chadha, 2012).

The negative and dysfunctional cognitive schema that is characteristic of maladaptive perfectionists is likely associated with poorer psychological functioning than for adaptive perfectionists. The idea of discrepancy may be related to self-criticism in that any perceived discrepancy between one's high standards and actual performance may lead to negative self-talk and dysfunctional cognitions. The maladaptive component of perfectionism was studied using the MPS and the FMPS and the construct of self-critical perfectionism was developed. This study indicated that the maladaptive aspects of perfectionism, in combination with self-criticism, were related to higher distress in a clinical sample of adults with depression (Clara, Cox, & Enns, 2007). Perhaps this critical and negative cognitive style contributes to the development of psychological problems such as depression and depressive symptoms. Although there is separation in how perfectionism and self-criticism have been examined theoretically and

empirically, they are similar in that both constructs are found to be associated with a greater risk of developing mental health problems (Clara, Cox, & Enns, 2007).

Other studies of non-clinical college student samples have explored the link between perfectionism, depression, and other mediators to explain the relationship between these two variables. Brooding is a type of rumination that may be similar to self-criticism, and is one mechanism that helped explain the relationship between perfectionism and depression. Olson and Kwon (2008) studied how some components of perfectionism and rumination may increase risk for developing depressive symptoms in non-treatment-seeking college students. Using the MPS (Hewitt et al., 1991), Olsen and Kwon found that for college students with self-oriented and socially-prescribed perfectionism, brooding rumination was associated with greater depressive symptoms over time. Rumination has also been identified as a mediator between maladaptive perfectionism and depressive symptoms in adolescents (Flett, Coulter, Hewitt, & Nepon, 2011) and college students (Harris, Pepper, & Maack, 2008). Wei, Heppner, Russell, and Young (2006) reported that coping styles that are ineffective mediated the relationship between maladaptive perfectionism and depression. The authors found that over time the interaction between ineffective coping and maladaptive perfectionism contributed to depression. The literature also indicates that other important mediators such as self-esteem and shame are associated with depressive symptoms among maladaptive perfectionists. Using the FMPS and APS-R, Ashby, Rice, and Martin (2006) reported that higher levels of self-esteem and lower levels of shame were both related to fewer depressive symptoms among maladaptive perfectionists in a sample of non-treatment-seeking college students.

In summary, research has shown that college students who are maladaptive perfectionists typically evidence greater depressive symptoms than those who are adaptive perfectionists or non-perfectionists (Flett, Hewitt, Blankstein, & O'Brien, 1991; Kawamura, Hunt, Frost, & DiBartolo, 2001, Slaney et al., 2001). It is expected that students who are maladaptive

perfectionists will not only report greater depressive symptoms but will also report lower levels of self-compassion. It is reasonable to assume that students who are maladaptive perfectionists are less likely to exhibit self-compassion, given that being self-compassionate requires treating oneself kindly when faced with failure and viewing imperfection as part of the human condition. These findings have implications for psychological treatment and can help guide clinicians in their choices about how to approach individuals who are both perfectionistic and depressed. If clients seeking treatment in college counseling centers present with symptoms of depression it may be important to assess for maladaptive perfectionism and determine to what degree perfectionistic traits may be contributing to clients' psychological distress.

Perfectionism and Eating Concerns

Eating disorders are diagnosed based on specific symptoms, however they are also conceptualized as sharing some similar underlying psychological characteristics that go beyond symptoms related to food intake, weight, and body image. Fairburn, Cooper, and Shafran (2003) established a transdiagnostic theory of eating disorders that identifies how eating disorders develop and are maintained through similar psychological processes. Perfectionism is thought to be one of these mechanisms. The search for an ideal or perfect body is often driven by perfectionistic traits, though when this goal is unattainable, an individual with disordered eating experiences shame and guilt (Fairburn, Cooper, & Shafran). A negative cognitive style is also common in individuals with eating disorders, which can help maintain and exacerbate symptoms over time (Ferreira, Pinto-Gouveia, & Duarte, 2013). Research in treatment-seeking samples has shown that eating disorder symptomatology is more prevalent in maladaptive perfectionists than adaptive perfectionists or non-perfectionists (Ashby, Kottman, & Schoen, 1998). Newer studies also have found support for the correlation between perfectionism and disordered eating in clinical and non-clinical samples of college students, adolescents, and adults (Bardone-Cone et

al., 2007; Franco-Paerdes, Mancilla-Diaz, Vazquez-Arevalo, Lopez-Aguilar, & Alvarez-Rayon, 2005).

Perfectionism makes an individual more vulnerable to eating concerns, and research has demonstrated that perfectionistic tendencies often exist prior to the development of eating disorder symptoms (Fairburn, Cooper, Doll, & Welch, 1999). Further supporting the claim that perfectionism may be an underlying personality trait, evidence also shows that even when eating disorders improve, perfectionistic thinking and behaviors may remain, which indicates that perfectionism is a characteristic separate from and not necessarily in response to the development of eating concerns (Bardone-Cone et al., 2007). While perfectionism has been described as multidimensional, including both functional and dysfunctional components (e.g., Slaney et al., 2001), the relationship between these two aspects of perfectionism is more nuanced. Adaptive perfectionistic traits involve setting high standards for oneself and constantly working to meet those expectations. Maladaptive perfectionistic traits include concern over judgment, excessive self-criticism, and a perceived discrepancy between an individual's high standards and their performance (Rice & Ashby, 2007). Adaptive perfectionists can be quite successful and high functioning, and studies have found that adaptive perfectionists report greater self-esteem and self-efficacy, more attachment security, and strong academic performance (Grzegorek, Slaney, Franze, & Rice, 2004). However, individuals who endorse traits of maladaptive perfectionism report more depressive symptoms, bulimic symptoms, and psychological distress than adaptive perfectionists (Aldea & Rice, 2006; Bardone-Cone, Rice & Ashby, 2007; Weishuhn & Boyd, 2009). It is apparent that maladaptive perfectionists are at greater risk of developing eating disorder symptoms, perhaps because of the negative cognitive style and strong sense of discrepancy associated with their body, shape, weight, and performance.

Some studies have demonstrated that individuals with disordered eating report high levels of both adaptive and maladaptive perfectionistic traits, and others have suggested that

maladaptive perfectionism is the specific aspect of perfectionism which contributes to eating concerns. For example, Ashby et al. (1998) demonstrated that individuals who were diagnosed with eating disorders endorsed higher levels of maladaptive perfectionism than those who did not meet diagnostic criteria, but both groups endorsed similar levels of adaptive perfectionism. Additionally, Pearson and Gleaves (2006) reported that adaptive perfectionism was correlated with satisfaction with body appearance, shape, and weight, and was not significantly correlated with bulimia. Maladaptive perfectionists looked very different, in that they reported significantly lower self-esteem, more concerns related to body shape, size, and weight, and more symptoms of bulimia. In examining the existing research, it seems that adaptive perfectionism, specifically possessing high personal standards and working to achieve those goals, may not be the problem alone. However, if both adaptive and maladaptive perfectionistic traits are present, this may but create the perfect storm for the development of eating disorder symptoms.

In summary, research on the relationship between eating disorder symptoms and perfectionism indicates that maladaptive perfectionists are at greater risk of developing eating concerns and they report higher levels of disordered eating, perhaps associated with a shared negative cognitive style. However, the research on this relationship between eating disorders and perfectionism has not fully examined potential mediating factors that may influence the relationship between perfectionism and eating disorder symptoms. Rather, the existing research focuses more on the relationships and specific factors that influence eating disorder symptomatology, without considering protective factors that may exist, and can buffer against the development of pathology. The following section describes the concept of self-compassion as a potential mediator of the relationship between maladaptive perfectionism and depression and eating concerns. Additionally, the importance of examining this construct in college students seeking mental health treatment for depressive symptoms and eating concerns will be discussed.

Self-Compassion

Self-compassion is a way of describing psychological functioning and has become an approach to treating mental health concerns that is informed by aspects of Buddhism. Self-compassion is an integral part of Buddhist thought and has been defined as the “acknowledgement and acceptance of one’s personal suffering, without dismissing or avoiding it, while at the same time attempting to cope with one’s suffering by being kind to oneself” (Neff, 2003a). Self-compassion is seen as a way of living and being that embraces imperfections and encourages one to practice patience and self-acceptance (Neff & Lamb, 2009). Neff conceptualized self-compassion as having three primary components: self-kindness, universality of the human experience, and mindfulness in the face of suffering and pain (Neff, 2003a). Neff draws a distinction between compassion for others and self-compassion, where other-oriented compassion involves being accepting of another’s imperfections and self-compassion involves accepting one’s own imperfections, especially after a perceived failure (Neff, 2003a).

Neff (2003b) argues that self-compassion serves as a healthy way of viewing and treating oneself. Self-compassion may counter negative and distorted thinking, excessive self-criticism, interpersonal loneliness, and ruminative thinking, which have been shown to be correlated with symptoms of depression. Given that self-compassion provides an alternative approach to relating to oneself, increasing self-compassion in therapy may be valuable for clients who hold particularly negative views of themselves and frequently engage in rumination and social isolation. Additionally, it has been suggested that self-compassion is a relatively stable trait-like characteristic (Neff 2003b; Raes, 2011). However, a recent randomized controlled trial with non-clinical participants reported that self-compassion increased through an eight-week group intervention, suggesting that although it is conceptualized as a trait, self-compassion can be taught and practiced over time (Neff and Germer, 2013). Self-compassion is also valuable in that it differs in important ways from self-esteem because it is not grounded in self-other comparisons.

In order to practice self-compassion, an individual must avoid conditional self-acceptance, hold fair expectations for oneself, and minimize basing self-worth on external circumstances. In recent years, parents, teachers, coaches, and mentors have promoted the idea of increasing self-esteem in children and adolescents. Despite this seemingly positive attempt to foster well-being in children, research has found that self-esteem is related to specific interpersonal problems (Neff, 2003b). In order to develop self-esteem, children must assess themselves in relation to their peers and determine where they fall on a hierarchy. This process can lead to downward social comparisons, self-absorption, and narcissism. These problems may become the unintended consequences of focusing primarily on increasing self-esteem.

In theory, it should be ideal and less challenging to improve one's self-compassion, rather than their self-esteem, since the goal is developing acceptance of imperfections and holding realistic standards for oneself. The practice of blindly or universally praising behaviors may backfire if the behavior is undesirable or problematic (2003b). Particularly relevant to the present study, research has shown that by focusing on increasing self-esteem, teenagers become preoccupied with self-criticism and self-worth, which can contribute to depressive symptomatology (Harter & Marold, 1994; Neff, 2003b). Self-compassion has also been found to be negatively correlated with maladaptive perfectionism (Neff 2003a), suggesting that the negative cognitive style characteristic of perfectionism, eating concerns, and depression may be responsive to changes in the approach to viewing oneself, such as developing self-compassion.

Both researchers and practitioners have a vested interest in understanding potential protective factors against developing psychological difficulties, and one of those protective factors may be self-compassion (Neff, 2003b). The concept of self-compassion is the focus of this study and its potential role in the prevention and treatment of psychological distress is examined. Since the construct of self-compassion was initially described in the psychology literature by Neff (2003a, 2003b), a substantial body of research has supported the idea that it can provide a buffer

against developing mental health problems such as depression and eating disorders in non-clinical college student samples (MacBeth & Gumley, 2012; Neff, 2003a; Neff & McGehee, 2010; Stuart, 2009; Werner et al., 2012;). Perhaps most closely related to the present study, a single-site dissertation examining non-treatment-seeking college students found that a mindfulness-based approach focusing on self-compassion was effective in treating eating concerns among college students reporting traits of maladaptive perfectionism (Stuart, 2009). Stuart's study found that reported eating problems decreased after the treatment, providing support for self-compassion and mindfulness as beneficial treatment components. Additionally, Stuart's study found that self-compassion partially mediated the relationship between maladaptive perfectionism (discrepancy, in particular) and eating concerns in this non-clinical college student sample (Stuart, 2009). In summary, Stuart's study provides evidence that self-compassion is a concept that may be of use to college counseling center clinicians who are treating perfectionist clients with eating concerns.

Given the reality that college students are presenting in considerable psychological distress, it makes sense that college counseling centers will want to identify both protective factors and treatment approaches that can help boost and maintain positive mental health. The next section describes self-compassion and the relevance of this concept in terms of understanding and treating college student mental health problems, specifically eating concerns and depressive symptoms.

Self-compassion as an important approach to understanding mental health problems

Self-compassion may be a useful way of conceptualizing mental health concerns because it emphasizes healthy and adaptive functioning and provides a unique approach to treating psychological difficulties. One problem that is common among college student clients, and often a challenge at this developmental stage, is emotion regulation. Research also shows that self-compassion may provide a way of managing intense emotions and improving overall mental health (Neff, 2003b). In a scale development study, self-compassion was negatively correlated

with depression, anxiety, maladaptive perfectionism and perceived stress, and positively correlated with life satisfaction (Neff, 2003b, Shapiro et al., 2005). Additionally, in a study of non-treatment-seeking college students reporting posttraumatic stress disorder symptoms, self-compassion was negatively associated with avoidance behaviors that are characteristic of PTSD (Thompson & Waltz, 2008). Given that avoidance can maintain and exacerbate PTSD symptoms, this study suggests that self-compassion may be a protective factor due to its focus on managing and regulating intense feelings and emotions.

Self-compassion may be a helpful way of dealing with and rebounding after negative life events. In a sample of non-treatment-seeking college students, Leary, Tate, Adams, Allen, and Hancock (2007) studied in a lab setting students' reactions to personally distressing events. Results of their study demonstrated that self-compassion provides a buffer against negative emotions in response to (imaginal) distressing social incidents. In addition, when the researchers attempted to foster self-compassion in participants, they began to reframe the negative events in a way that decreased overwhelming negative emotions. In this study, self-esteem was not shown to have the same effect as self-compassion for students hearing negative or upsetting feedback. In a non-treatment-seeking sample of college students, Neff, Kirkpatrick, and Rude (2007) found increases in self-compassion over the course of one month was associated with increases in interpersonal closeness and decreases in self-criticism, ruminative thinking, thought suppression and symptoms of depression and anxiety. It seems that self-compassion may be an important therapeutic approach that can be used to counteract and buffer against negative thoughts, feelings, and beliefs about the self.

Given the tenuous nature of self-esteem, it seems crucial to consider how psychological well-being and healthy functioning may be fostered in college students. One potential mechanism that may act as a protective factor in the development of depression and eating concerns is self-compassion. In contrast to the self-centered approach of building self-esteem, fostering self-

compassion is less about praising individual success and more about encouraging one to view both success and failure as opportunities to practice acceptance and patience. By taking this view of oneself, one is less likely to feel isolated and different from others as a result of a perceived failure or success, but instead like a part of the common human struggle. Therefore, self-compassion may serve as a protective factor that increases resilience since it embraces imperfection as part of our common humanity, rather than as a failure.

While a substantial amount of the research on self-compassion has explored its association with mental health problems, other research has examined the role of self-compassion in adaptive functioning and well-being. In studies of non-treatment college students self-compassion was positively associated with happiness, optimism, positive affect, wisdom, personal initiative, curiosity and exploration, agreeableness, extroversion, and conscientiousness (Neff, Rude, & Kirkpatrick, 2007). Additionally, in non-clinical samples of college students self-compassion was correlated with emotional well-being when students were faced with stressful times (Neely, Schallert, Mohammed, Roberts & Chen, 2009).

Self-compassion serves as a different approach to emotional well-being and provides an alternative to self-esteem. Previous studies have identified negative relationships between low self-esteem and maladaptive perfectionism (Neff, 2003b), low self-esteem and depression (Orth, Robins, & Roberts, 2008), and low self-esteem and eating disorders (Cervera, Lahortiga, Martinez-Gonzalez, Gual, Irala-Estevez, & Alonso, 2003). Rice et al. (1998) reported that self-esteem mediated the relationship between perfectionism and depression, where greater self-esteem was associated with fewer depression symptoms. While these findings have some value, as discussed previously in this chapter, there are several pitfalls of focusing primarily on self-esteem (Neff, 2003b). Crocker and Park (2004) claim that the short-term gains associated with increases in self-esteem are not worth the potential problems that may persist over time. These authors also argue that the over-reliance of building self-esteem, as opposed to teaching self-

compassion, can impact children and adolescents' ability to form healthy interpersonal relationships, regulate their emotions, develop confidence and competence, and maintain positive mental health.

Why is self-compassion important to study in college students?

For most students, college is marked by critical developmental changes and personal growth. In fact, Arnett (2000) defines this developmental phase as “emerging adulthood,” which provides some college students with a chance to focus on exploring their identity over a longer period of time. Neff (2003b) suggests that during adolescence, self-compassion may be at its lowest point. This may be related to the tendency of adolescents and emerging adults to become self-reflective to the point of becoming self-absorbed, leading to a sense of isolation and psychological distress. This potential to drift toward becoming egocentric is likely associated with lower levels of self-compassion, particularly for college students who are experiencing increased independence and decreased parental influence allowing them to engage in more self-reflection. Egocentrism and isolation, which can lead college students to believe their difficulties are unique to them, may make them more vulnerable to mental health problems and emotional distress. Additionally, adolescents and emerging adults are typically faced with increased pressure to excel academically and socially which may contribute to a tendency to engage in downward social comparisons.

Self-compassion is a valuable framework for understanding resilience and protective factors in the current study because it has been studied extensively with college students and has been shown to be an important concept related to both psychological problems and adaptive functioning. One gap that exists in the literature is the focus on college students seeking treatment at university counseling centers. This missing link in the research points to the need for examining how self-compassion is related to mental health concerns specifically among treatment-seeking college students. Additionally, self-compassion research is relatively new and

has emerged within the past decade. Neff's concept of self-compassion as a way of understanding the relationship to oneself was formally introduced in 2003. Since its introduction, Neff and other researchers have examined self-compassion and its relationship to both healthy psychological functioning and psychological distress. Although links have been established between self-compassion and perfectionism, self-compassion and eating disorders, and self-compassion and depression, less is known about how these constructs interact and potential mediating factors, particularly among clinical samples of college students (Hayes et al., 2016; Van Epps, 2015). One potential explanation is the presence of a negative cognitive style characteristic of individuals reporting symptoms of depression and eating disorders, and who endorse traits of maladaptive perfectionism. It has been found that maladaptive perfectionists report lower levels of self-compassion (Neff, 2003b), which indicates that college students who struggle with the negative aspects of perfectionism may benefit from a treatment that fosters self-compassion. A more nuanced understanding is warranted, particularly given the prevalence of mental health concerns among college students, and the potential protective factor that self-compassion may serve.

Summary and Rationale for Present Study

One approach to treating depressive symptoms and eating concerns among maladaptive perfectionistic college students may be psychotherapy informed by self-compassion. The purpose of this study is to examine the relationships between perfectionism, depressive symptoms, eating concerns, and self-compassion. If self-compassion does serve as a protective factor in the relationships between perfectionism, eating concerns, and depressive symptoms, then therapists may be able to tailor their interventions to increase self-compassion among college students seeking services. As described in the section on self-compassion, the only study that has examined self-compassion, eating disorders, and perfectionism found that a mindfulness-based treatment that incorporated self-compassion was effective in treating non-treatment-seeking perfectionistic college students with eating concerns (Stuart, 2009). Stuart's dissertation study

indicated that students' eating concerns decreased after the intervention, suggesting that self-compassion, with its focus on mindfulness, may be an effective approach to treating the distress associated with maladaptive perfectionism. While self-compassion is negatively associated with maladaptive perfectionism, it does not result in adopting lower personal standards, which could be a potential fear among perfectionistic students with depressive symptoms and eating concerns. Self-compassion focused therapy may also help college counseling center clients manage, cope with, and decrease their distress associated with maladaptive perfectionism and depressive symptoms.

Considering the alarming rates and risks of depressive symptoms and eating concerns and the relationship between maladaptive perfectionism and psychological distress, research that examines potential treatment approaches for helping perfectionistic students manage their depressive symptoms and eating concerns is necessary. In the present study, the concept of discrepancy may be demonstrated to stand in contrast to more kind ways of viewing the self, characteristic of self-compassionate individuals. As demonstrated in previous research, it can be expected that students who report high levels of discrepancy associated with maladaptive perfectionism may also report low levels of self-compassion (Neff, 2003b). By empirically testing the relationships between maladaptive perfectionism and depression and eating concerns, and the mediating effects of self-compassion, this study may provide some useful data about the role of protective factors in a sample of treatment-seeking college students.

In the current study, the rationale for examining perfectionism in college students is based on the already established relationship between maladaptive perfectionism and eating disorders and depression. The next step is to consider what protective factors exist that may buffer against the development of these psychological concerns, because it is likely that maladaptive perfectionists have fewer coping skills and are less self-compassionate than adaptive perfectionists. Consistent with existing literature linking self-compassion to perfectionism,

depression, and eating disorders, the present study may help inform our understanding and treatment of these mental health concerns. Understanding the benefits of self-compassion and infusing this concept in psychotherapy may help students develop the skills needed to overcome the negative cognitive style associated with perfectionism, depressive symptoms, and eating concerns. In fact, a recent study by Neff and Germer (2013) found that an 8-week intervention incorporating self-compassion for non-clinical participants resulted in higher levels of self-compassion. This indicates that self-compassion may be able to shift over a relatively short period of time, which would lend itself nicely to short-term treatment models that have been adopted by many college counseling centers. The present study builds upon Stuart's dissertation (2009) and is designed to investigate the relationships between perfectionism, self-compassion, depressive symptoms, and eating concerns in a clinical sample of college students. Additionally, the current study will be multi-site and data will be collected from several college counseling centers.

Research Hypotheses

1. In order to examine the mediation effect of self-compassion, using both the self-care and self-disparagement factors on the first outcome variable of depression, I will test the following hypotheses using Hayes PROCESS Macro (Hayes, 2013).
 - a. Self-care will mediate the relationship between maladaptive perfectionism and depression. Specifically, maladaptive perfectionism will be related to lower levels of self-care, and higher levels of depression.
 - b. Self-disparagement will mediate the relationship between maladaptive perfectionism and depression. Specifically, maladaptive perfectionism will be related to higher levels of self-disparagement, and higher levels of depression.

2. In order to examine the mediation effect of self-compassion on the second outcome variable of eating concerns, I will test the following hypotheses using Hayes PROCESS Macro (Hayes, 2013).
 - a. Self-care will mediate the relationship between maladaptive perfectionism and eating concerns. Specifically, maladaptive perfectionism will be related to lower levels of self-care, and higher levels of depression.
 - b. Self-disparagement will mediate the relationship between maladaptive perfectionism and eating concerns. Specifically, maladaptive perfectionism will be related to higher levels of self-disparagement, and higher levels of depression.

Chapter 3

Methods

Participants

Center for Collegiate Mental Health (CCMH). Participants were drawn from the Center for Collegiate Mental Health (CCMH) practice-research network. CCMH includes over 400 college and university counseling centers in the United States and several other countries, and was established in the early 2000's in order to collect standardized clinical data that could be used to inform both research and practice. CCMH was developed in response to the desire to bridge the gap between researchers and counseling center clinicians by collecting clinical data using instruments that are relevant to college students seeking-treatment. CCMH counseling centers engage in routine and ongoing data collection using two standardized instruments. At initial appointment, counseling center clients typically complete the Counseling Center Assessment of Psychological Symptoms (CCAPS-62) and the Standardized Data Set (SDS). Both of these instruments will be utilized in this study and described in full later in Chapter 3.

Participants were undergraduate and graduate students seeking counseling center services at four CCMH member institutions, both public and private, located in the Mid-Atlantic states. Data were collected during the 2012 academic year. After data cleaning procedures which are described further in Chapter 4, the final sample included 614 participants (Table 1). Four hundred and one (65%) identified as women and 213 (35%) identified as men. Ninety-two percent (538) identified as heterosexual and eight percent (48) identified as lesbian, gay, bisexual, or questioning (LGBQ). Three hundred and sixty-nine (60.5%) of participants identified as White and 241 participants (39.5%) identified as one of the following: African American/Black, American Indian or Alaskan Native, Asian American/Asian, Hispanic/Latino/a, Native Hawaiian or Pacific Islander, Multi-racial. Five hundred and eighteen participants identified as undergraduates (84%) and 96 participants identified as graduate students (16%), and the number

of participants was fairly evenly distributed across academic level. The mean age of participants was 22.

Procedure

Recruitment. CCMH counseling center members were recruited using the CCMH listserv in the fall of 2012 (see Appendix A). Counseling centers received a recruitment letter via email. The letter contained a brief description of the proposed research study and described the two instruments (the Almost Perfect Scale – Revised and the Self-Compassion Scale - Short Form) that could be added to their protocols at initial appointment. CCMH member centers that chose to participate in this study began administering the APS-R (see Appendix C) and SCS-SF (see Appendix D) alongside the SDS and CCAPS-62 at initial appointment for their clients. Counseling centers were provided with information about how to score and interpret the APS-R and SCS-SF so that the data collection could provide meaningful clinical information to therapists. A total of four college counseling centers provided data which had incorporated these instruments into their initial consultation protocol with clients.

Data collection. All CCMH counseling centers that contributed data received Institutional Review Board (IRB) approval through their own institutions. Additionally, the CCMH practice research network received IRB approval from Penn State University in order to collect data from contributing counseling centers. Counseling center clients completed an informed consent giving permission to contribute their anonymous and de-identified data to CCMH (see Appendix B). Participants completed the SDS, CCAPS-62, APS-R, and SCS-SF at their initial session in their respective counseling centers. The data from these four measures were collected using Titanium Software, which is a scheduling and data management software program. Counseling centers contributed standardized and anonymous data through Titanium which did not link participants' responses to their identity. Data collection was ongoing during the spring 2013 semester and after each counseling center collected data on their individual

clients, the data was uploaded in the summer of 2013 to the CCMH server. Each participating counseling center uploaded their de-identified, anonymous data from the SDS, CCAPS-62, APS-R, and SCS-SF to the CCMH server, which is a central and secure location for data storage. Anonymous and de-identified data was then transferred to SPSS for data analysis.

Measures

Demographic Data. The Standardized Data Set (SDS; Center for Collegiate Mental Health, 2012) is composed of a set of 25 core questions and a number of optional questions that counseling centers may choose to include in their intake protocol. The SDS is administered to college students seeking counseling services and includes questions related to demographics, presenting concerns, and mental health history. The SDS was developed in 2006, was revised in 2009 and again in 2012. Sample demographic questions include “What is your gender identity?” and “Are you an international student?” A sample mental health history question is “Have you experienced a traumatic event that caused you to feel intense fear, helplessness, or horror?” A second example of a mental health history question asks clients to indicate if they have “Seriously considered attempting suicide” including how many times, and the last time.

Depressive Symptoms and Eating Concerns. The Counseling Center Assessment of Psychological Symptoms (CCAPS-62) is a 62-item self-report instrument that was intentionally designed to assess specific psychological concerns and areas of distress that college students report in treatment (Locke et al., 2011a). The CCAPS-62 asks students to rate each item on a 5-point scale where 0 = *Not at all like me* and 4 = *Extremely like me*. The eight CCAPS-62 subscales include: Depression, Generalized Anxiety, Social Anxiety, Academic Distress, Eating Concerns, Family Distress, Hostility, and Substance Use. The Depression subscale consists of 13 items (e.g., “I feel isolated and alone”), the Generalized Anxiety subscale consists of 9 items (e.g., “I have spells of terror and panic”), the Social Anxiety subscale consists of 7 items (e.g., “I am shy around others”), the Academic Distress subscale includes 5 items (e.g., “I am unable to

keep up with my schoolwork”), the Eating Concerns subscale includes 9 items (e.g., “I think about food more than I would like to”), the Hostility subscale has 7 items (e.g., “I have difficulty controlling my temper”), the Family Distress subscale has 6 items (e.g., “My family is basically a happy one”), the Substance Use subscale has 6 items (e.g., “I drink more than I should”).

The CCAPS-62 items were generated by clinicians who proposed subscales by theme and created a pool of items, and then decreased and confirmed a pool of items using factor analysis as the statistical approach. Developing the CCAPS-62 was a collaborative process led by a group of therapists at university counseling centers who had an interest in creating a valuable assessment that could be utilized by counseling center clinicians. After an iterative process of clinicians proposing and agreeing on a number of items for inclusion, the CCAPS-62 was further developed using statistical analyses such as exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). In a study of 2,155 counseling center clients who completed the CCAPS-62 at their initial appointment, results of the EFA identified a 9-factor model that initially included a ninth subscale labeled Spirituality, which was later removed. After completing a confirmatory factor analysis (CFA) the results generated the current instrument which includes 62 items and 8 factors, and eliminated the Spirituality subscale (Locke et al., 2011a). The final 8-factor model was supported using data from a sample of 22,060 students seeking services at university counseling centers.

For the purposes of the current study and consistent with the research questions that have been established, only the Depression and Eating Concerns subscales will be used. Locke et al. (2011a) reported that the reliability coefficients (Cronbach’s alpha) for each of the 8 CCAPS-62 subscales demonstrated good internal consistency that is greater than .80. The test-retest reliability of the CCAPS-62 was examined by sampling non-treatment-seeking undergraduate students. Overall, the CCAPS-62 1-week retest ($n = 46$) reliability estimate is .92, and the 2-week retest ($n = 52$) reliability estimate is .76 (Locke et al., 2011a). Regarding the two subscales that

were utilized in the current study, the 1-week test-retest reliability of the Depression subscale is .93 and the 2-week test-retest reliability is .92. The 1-week test-retest reliability of the Eating Concerns subscale is .89 and the 2-week test-retest reliability is .90. The Depression subscale internal consistency was .91 (Cronbach's alpha) and the Eating Concerns subscale internal consistency was .88 (Cronbach's alpha). In order to establish concurrent validity, Locke et al. (2011a) gathered data using a sample of 499 non-clinical undergraduate students who completed the CCAPS-62 and a referent measure for each subscale. This scale development study reported that the Depression subscale was significantly correlated with the Beck Depression Inventory (BDI), $r = .72$ (Locke et al., 2011) and the Eating Concerns subscale was significantly correlated with the Eating Attitudes Test-26 (EAT-26), $r = .65$ (Locke et al., 2011a). The remaining 6 subscales of the CCAPS-62 demonstrated the highest correlation with the referent measure that had been selected (e.g., the Generalized Anxiety subscale correlated most highly with its referent measure, the Beck Anxiety Inventory (BAI)).

Perfectionism. The Almost Perfect Scale-Revised (APS-R) measures perfectionism on several dimensions. The APS-R was developed by Slaney et al. (2001) and consists of 23 items assessing perfectionism using three subscales labeled High Standards, Discrepancy, and Order. A 7-point Likert scale measures responses ranging from 1 "*strongly disagree*" to 7 "*strongly agree*." Sample items on the High Standards subscale include "I have high expectations for myself" and "I try to do my best at everything I do." Sample items on the Discrepancy subscale include "I often feel frustrated because I can't meet my goals" and "Doing my best never seems to be enough." Sample items on the Order subscale include "Neatness is important to me" and "I like to always be organized and disciplined." The APS-R subscales measure aspects of both adaptive and maladaptive perfectionism. Specifically, the Discrepancy subscale was designed to measure maladaptive perfectionism which is characterized by the perceived discrepancy between one's expectations and actual performance. Higher scores on each of the three subscales indicate higher

levels of high standards, order, and discrepancy, and thus higher levels of adaptive or maladaptive perfectionism. Statistical analyses including exploratory and confirmatory factor analyses supported the three scales which had been proposed (Slaney et al., 2001).

Utilizing a non-clinical sample of college students, the APS-R demonstrated high internal consistency, with Cronbach's alphas of .82 for the High Standards subscale and .91 for the Discrepancy subscale (Slaney et al., 2001). Grzegorek, Slaney, Franz, and Rice (2004) examined internal consistency and test-retest reliability in a non-clinical sample of 273 college students and reported high internal consistency coefficients of .92 for Discrepancy, .85 for Order, and .82 for High Standards. The authors also reported adequate test-retest reliability after three weeks with correlations of .72 for High Standards, .83 for Discrepancy, and .80 for Order.

The APS-R also shows good construct validity, and Slaney et al. (2001) demonstrated that the discrepancy subscale accurately measures the negative aspects of perfectionism and the high standards and order subscale accurately measure the positive aspects of perfectionism. The APS-R is correlated with other measures of perfectionism including the Hewitt and Flett Multidimensional Perfectionism Scale (HFMPMS; Hewitt et al., 1991) and the Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990). The APS-R is correlated with established instruments assessing self-esteem, depression, worry, and GPA, which supports the construct validity of the adaptive and maladaptive components of perfectionism (Slaney et al., 2001).

In order to accurately describe the three types of perfectionists established by the APS-R, Rice and Ashby (2007) developed and validated a system of classification. The authors reported that high scores, above the identified cut-off, on the High Standards subscale indicate the presence of adaptive perfectionism, whereas high scores on both the High Standards and Discrepancy subscales indicates the presence of maladaptive perfectionism. Given that the current

study is interested in examining the negative aspects associated with maladaptive perfectionism, the Discrepancy and High Standards subscales will be used.

Self-Compassion. The Self-Compassion Scale (SCS) was developed to assess three aspects of attitudes toward the self which include: the ability to be kind to oneself after experiencing disappointment or failure, the ability to perceive one's life as interconnected and representative of the larger human experience, and the ability to manage thoughts and emotions using mindful awareness (Neff, 2003a). The SCS includes 26 items and six subscales which measure six components of self-compassion: Self-Kindness includes five items (e.g., "I try to be understanding and patient toward aspects of my personality I don't like"), Self-Judgment includes five items (e.g., "I'm disapproving and judgmental about my own flaws and inadequacies"), Common Humanity includes four items (e.g., "I try to see my failings as part of the larger human experience"), Isolation includes four items (e.g., "When I'm feeling down, I tend to feel like most other people are probably happier than I am"), Mindfulness includes four items (e.g., "When something upsets me I try to keep my emotions in balance."), Overidentification includes four items (e.g., "When I fail at something important to me I become consumed by feelings of inadequacy"). Through confirmatory factor analyses, Neff (2003a) established support for the proposed six-factor model as well as the single higher-order factor of self-compassion, which reinforced the theoretically-driven relationships between the six factors (Neff, 2003a).

Responses to each item are on a 5-point scale from 1 "*almost never*" to 5 "*almost always*." Negative items are reverse coded and scores for the six subscales are found by averaging the items on each subscale. The SCS is intended to measure self-compassion by using the total score, and this is generated by averaging the means for all six subscales. An average level of self-compassion is indicated by a score of 3 on the 1-5 scale, with higher scores indicating higher self-compassion and lower scores reflecting lower self-compassion.

Using non-clinical college student samples, Neff (2003a) reported high internal consistency for the SCS total score and Cronbach's alpha values between .92-.94. Concurrent validity was established using measures of self-criticism, depression, anxiety, rumination, and thought suppression, supporting negative correlations between the SCS and measures of these constructs. Positive correlations between the SCS and social connectedness also indicate concurrent validity. Neff also demonstrated that self-compassion as measured by the SCS is different from the construct of self-esteem. Discriminate validity was supported by moderate correlations between the SCS and other instruments that assess how individuals view and treat themselves (e.g., attitudes toward self). Construct validity for the SCS was supported by participant self-report and clinician assessment of self-compassion (Neff et al., 2007).

Given that the SCS consists of 26 items and takes several minutes to complete, a briefer version called the Self-Compassion Scale – Short Form (SCS-SF) was developed in 2011 (Raes et al.). The SCS-SF was statistically derived using the long form of the SCS and includes 12 items from the longer SCS. The SCS-SF has demonstrated adequate internal consistency with Cronbach's alphas of $\geq .86$ for the total score and a high correlation of .97 with the long form.

Although Raes et al. (2011) reported results of a confirmatory factor analysis that supported the same six-factor model in both the short and long forms of the instrument, and also a single higher-order factor of self-compassion, a more recent study did not support this factor structure. Hayes, Lockard, Janis, and Locke (2016) reported contradictory findings in which a single higher-order factor of self-compassion was not demonstrated in a clinical sample of college students seeking services at university counseling centers. Utilizing both exploratory and confirmatory factor analyses, the authors established a two-factor model in which the positively phrased items loaded onto one factor (self-care) and the negatively phrased items loaded onto one factor (self-disparagement). The two factors, self-care and self-disparagement, were significantly correlated ($r = -0.43, p < .001$). Given that Hayes et al.'s (2016) study utilized a treatment-

seeking sample of college students and also conducted a more comprehensive and rigorous analysis of the factor structure, the SCS-SF two-factor model was selected as the most appropriate approach to conceptualization and data analysis in the current study. Therefore, based on the results of Hayes et al.'s study (2016), self-disparagement and self-care will primarily be discussed separately as two distinct factors, rather than the previous single factor identified as self-compassion.

Planned Statistical Analyses

In order to examine the proposed hypotheses, some initial procedures were conducted to clean the data set and prepare it for analysis. These steps included analyzing for missing data, creating and recoding variables, and clarifying criteria for inclusion of cases. Certain demographic variables were recoded to eliminate cases without meaningful data, such as clients who wrote in a specific race or ethnicity that could not be specified and categorized. The means, standard deviations, and medians of specific demographic data were reported, including gender, age, sexual orientation, and ethnicity. The means, standard deviations, and medians for the independent and dependent variables were also reported. The self-disparagement factor of the SCS-SF was calculated by reverse scoring the items, since they are negatively worded. Multicollinearity was assessed by examining the correlations between all variables. Violations of assumptions such as normality and homoscedasticity were examined as part of the regression analyses.

To examine the hypotheses proposed in Chapter 2, a series of multiple regression analyses were conducted using the Hayes PROCESS Macro (Hayes, 2013). Regression analyses tested the four mediation models outlined in the hypotheses, using the APS-R standards and discrepancy subscales for maladaptive perfectionism, both factors of the SCS-SF (self-care and self-disparagement) as the mediator variables, and the CCAPS-62 for the two outcome variables (depression and eating concerns). Additionally, in response to the eating concerns subscale being

highly positively skewed, two additional multiple regression analyses were conducted in order to examine separately the participants that endorsed zero items on that subscale and the respondents that did not endorse zero items. This step was considered to be important in order to determine if the relatively high number of participants who endorsed zero items were significantly affecting the results of the regression analyses.

A recommended approach to address non-normal distributions (Preacher & Hayes, 2009; MacKinnon, et al., 2004; Preacher & Hayes, 2004, 2008) is to “bootstrap the sampling distribution of ab and derive a confidence interval with the empirically derived bootstrapped sampling distribution” (Preacher & Hayes, 2004, p. 721). Bootstrapping is a nonparametric approach that can be used when a variable does not reflect normal distribution. Andrew Hayes developed an SPSS and SAS macro that uses bootstrapping to analyze the effects of mediator variables (Hayes, 2013; Preacher & Hayes, 2004). Given that the Hayes approach to testing mediation has been established as an appropriate and preferable approach to the steps suggested by Baron and Kenny (1986), the Hayes approach was utilized in the current study. The Hayes PROCESS Macro was used to test each path in the four mediation models described in the hypotheses. Based on the theoretical and empirical support for relationships between gender and the outcome variables (depression and eating concerns), the analyses included gender as a moderator in order to account for this variable (e.g. Elgin and Pritchard, 2006; Lewinsohn et al., 2002; Marcus et al., 2005). The results of the planned analyses described above are reported in the next chapter.

Table 3.1

Description of the Sample

Variable name	N	%
Gender		
Women	401	65.3
Men	213	34.7
Sexual Orientation		
Lesbian	7	1.2
Gay	14	2.4
Bisexual	13	2.2
Questioning	14	2.4
Heterosexual	538	91.8
Race/Ethnicity		
African American/ Black	77	12.6
American Indian or Alaskan Native	2	0.3
Asian American/ Asian	59	9.7
Hispanic/Latino/a	74	12.1
Native Hawaiian/ Pacific Islander	1	0.2
Multi-racial	28	4.6
White	369	60.5
Class Year		
First-year	131	21.3
Sophomore	100	16.3
Junior	155	25.2
Senior	132	21.5
Grad student	96	15.6
Age	$M = 22.1$	$SD = 3.6$

N=614

Chapter 4

Results

This chapter provides a summary of the results of statistical analyses conducted to examine the specific hypotheses associated with the two mediation models, as described in the preceding chapters.

Description of the sample

The data set used for analysis was a subset of the yearly CCMH collection project, collected during the 2013 spring semester. A total of four counseling centers that are members of CCMH incorporated the SCS-SF and the APS-R into their intake protocol and collected data. The original data set included participants who completed all four measures: the CCAPS-62, SDS, APS-R, and SCS-Short Form. Duplicate clients/cases were examined and only the initial administration of the SDS and CCAPS 62 cases were retained. The total score, mean, standard deviation, median, range, skewness, and kurtosis were calculated for all student variables, including both factors of the SCS-SF (self-disparagement and self-care) and the two APS-R subscales used in the analyses (discrepancy and high standards) and can be found in Table 2. Since the SCS-SF and APS-R are important variables of interest in the mediation models in the present study, cases with missing data were eliminated. If cases did not have a total score for each factor of the SCS-SF and the APS-R subscales they were eliminated, as this indicated missing data for one or more of the 12 items. Only 9 cases were eliminated that did not have total scores for these subscales. After these steps were completed 651 cases remained.

Additionally, data were examined to determine if there were any problems with missing data due to non-response or other issues. The highest proportion of missing data on any demographic variable of interest was 4.7% on sexual orientation. All of the other demographic variables had at most four missing cases. Client age was restricted to 18-35, and cases above age 35 were eliminated because it was determined that ages 18-35 included both traditional aged

undergraduates as well as older graduate students. In order for the results to be generalizable to other university counseling center populations, the age range of 18-35 was chosen, as there were few cases above the age of 35 and they were outliers in the sample. Cases were removed if a participant self-identified their gender, sexual orientation, or race/ethnicity in a way that could not be categorized. For example, if the self-identified response to sexual orientation was “demi sexual-pansexual,” this case was eliminated due to lack of clarity about how this response would be categorized as well as the very low frequency of self-identified responses, specifically write-ins, in this sample. An example of a self-identified response to race/ethnicity was “other,” which could not be categorized. In total, 5 cases were eliminated on the basis of age, 32 on the basis of sexual orientation, 4 on the basis of race/ethnicity, and no cases were eliminated on the basis of gender. Thus, after deleting cases for missing data, the final sample size was 614.

Assumptions

Tabachnick and Fidell (2007) suggest examining the following assumptions of multiple regression analyses: linearity, normality, homoscedasticity, and absence of multicollinearity. Pairwise residual plots can be used to examine linearity, normality, and homoscedasticity. By examining the residual plots, the data appeared to follow a linear pattern. Visual inspection of the scatterplots indicated no concern related to violation of homoscedasticity. Although the data was not normally distributed, the distributions for both Depression and Eating Concerns subscales were similar to the subscale distributions in the larger clinical CCMH Dataset (CCMH, 2012). The mean for the Depression subscale was 1.6, the median was a 1.5, with a standard deviation of 0.9. The Depression subscale was relatively normally distributed with a positive skewness value of 0.183. The Eating Concerns subscale had a mean of 1.0 and a median of 0.8 with a standard deviation of 0.9. The Eating Concerns subscale was highly positively skewed with a skewness value of 0.895.

The mean and median for APS-R Discrepancy was 50 with a standard deviation of 18.4 (Table 2). The Discrepancy subscale had a relatively normal distribution with a skewness value of -0.073. The mean for the APS-R Standards subscale was 40.4 and the median was 42 with a standard deviation of 7.3. The Standards subscale was negatively skewed with a skewness value of -1.356.

The mean for the Self-Disparagement factor was 3.4, the median was 3.5, with a standard deviation of 1.0. The Self-Disparagement total mean score was negatively skewed with a skewness value of -0.486. The mean and median for the Self-Care factor were 3.0 with a standard deviation of 0.8. The Self-Care total mean score had a relatively normal distribution with a negative skewness value of -0.023.

Regression analyses are considered fairly robust to the violation of normality (Tabachnick & Fidell, 2007). Therefore, transformation was not used to address nonnormality since it changes the original units to a log scale, making it more difficult to interpret clinical data. Despite the violations of normality, these three reasons were provided in order to proceed with the analyses: Similarity of the current data to the larger clinical CCMH Dataset, regression being robust to violations of normality, and difficulty interpreting clinical data if it is transformed using a log scale.

To assess for the absence of multicollinearity the correlation coefficients between the predictor variables were examined (see Table 3). The highest correlation was between Discrepancy and the Self-Disparagement ($r = 0.685, p < .01$), which represents a moderate correlation. Although the moderate correlation could potentially indicate a concern related to multicollinearity, further inspection of the items on both sub-scales suggests that they are different constructs. For example, all of the Discrepancy questions on the APS-R assess self-oriented views associated with perfectionism such as “I often worry about not measuring up to my own expectations.” In contrast, two of the six Self-Disparagement questions on the SCS-SF

assess other-oriented views such as “When I fail at something that’s important to me, I tend to feel alone in my failure” and “When I’m feeling down, I tend to feel like most other people are probably happier than I am.” This distinction seems important in that the Self-Disparagement factor includes both harsh and unkind views of self, and also negative downward comparisons related to others. Based on both the presence of a moderate correlation (as opposed to a strong correlation) and also examination of the specific questions that measure both subscales, multicollinearity was determined not to be a problem. Additionally, correlation analyses were conducted to demonstrate that the predictors are related to the outcome variables to justify using these models. The predictors and the outcome variables were all significantly correlated, with the exception of the Standards (covariate) and Eating Concerns. It would not be expected that Standards and Eating Concerns would be correlated since Standards alone has not been shown to be correlated with eating concerns in the existing literature. Rather, it is the combination of Standards and Discrepancy (maladaptive perfectionism) that has been demonstrated to be correlated with eating concerns. In the present study, Standards is being used as a control in the mediation models to indicate maladaptive perfectionism. All correlations between the predictors and outcome variables are found in Table 3.

Summary. The distributions for each of these scales, Standards, Discrepancy, Self-Disparagement, Self-Care, Depression, and Eating Concerns are consistent with what would be expected among a clinical sample of college students (Hayes et al., 2016; CCAPS Technical Manual, 2012). For example, it would be expected that the High Standards subscale would be negatively skewed because college students are likely to have high standards for their academic performance, experience greater pressure to succeed, and present a positive self-image (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). It would also be expected that the Eating Concerns subscale in this current sample would be positively skewed, which is consistent with

the distribution reflected in the Eating Concerns subscale in the larger clinical data set collected by the Center for Collegiate Mental Health (CCAPS Technical Manual, 2012).

Given that the distributions did not have a drop off on the opposite side of the skew, and there was no bell-shape to the distribution, any transformation would not adequately improve the normality of the distribution and would make the clinical data more challenging to interpret in log scale (Tabachnick & Fidell, 2007).

Mediation analyses

Hypothesis 1. To test the first hypothesis that self-compassion will mediate the relationship between maladaptive perfectionism and depression, the Hayes PROCESS Macro (Hayes, 2013) was used to test each path in the mediation model. The model included depression as the dependent variable, discrepancy as the independent variable, self-compassion as the mediator, standards as the control to indicate maladaptive perfectionism, and gender as the moderator for the effect of self-compassion on depression. (Figure 1). Consistent with recent research (Hayes, Lockard, Janis, & Locke, 2016), Self-compassion was operationalized by its two factors, self-care and self-disparagement. Results are reported for each of the two factors (Table 4) and the Hayes PROCESS Macro tested two separate models.

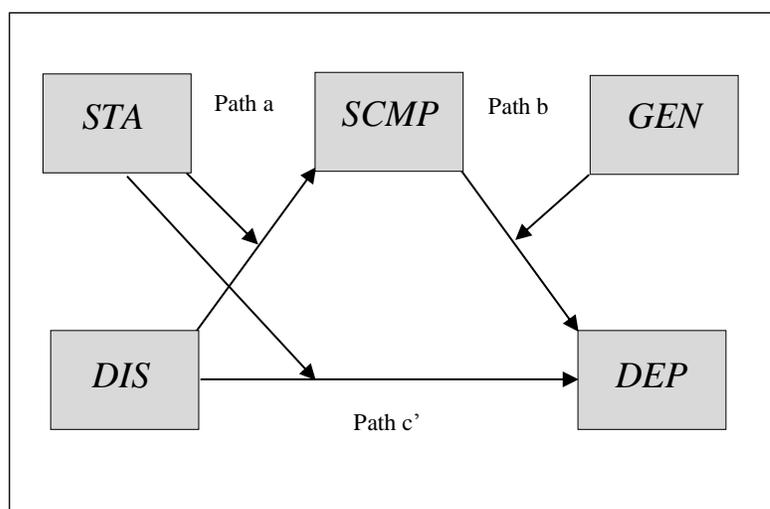


Figure 4.1 *Mediation* model for Hypothesis 1.

DIS = Discrepancy

STA = Standards

SCMP = Self-Compassion (Self-Care and Self-Disparagement)

GEN = gender

DEP = Depression

Self-Care factor. The overall model was significant ($F_{(7, 591)} = 91.109, p < .001$) and explained 52% of the variance in depression. Path a for self-care was significant ($F_{(2, 596)} = 53.245, p < .001$) and explained 15% of the variance in the outcome. Discrepancy was significantly negatively related to self-care ($b = -0.015, [-0.018, -.012]$). Path b was significant, with self-care being significantly negatively correlated with depression ($b = -0.120, [-0.213, -0.028]$). Path c was significant, with discrepancy being significantly positively related to depression ($b = 0.013, [0.009, 0.018]$). The effect of gender on the relationship between self-care and depression was not significant ($b = 0.164, [-0.543, 0.871]$). The direct effect of discrepancy on depression was the coefficient $b = 0.013, [0.009, 0.018]$. The indirect effect of discrepancy on depression through self-care was the product of a and b ($-0.015 \times -0.120 = 0.0018$). The total effect was the sum of direct and indirect effects (0.015).

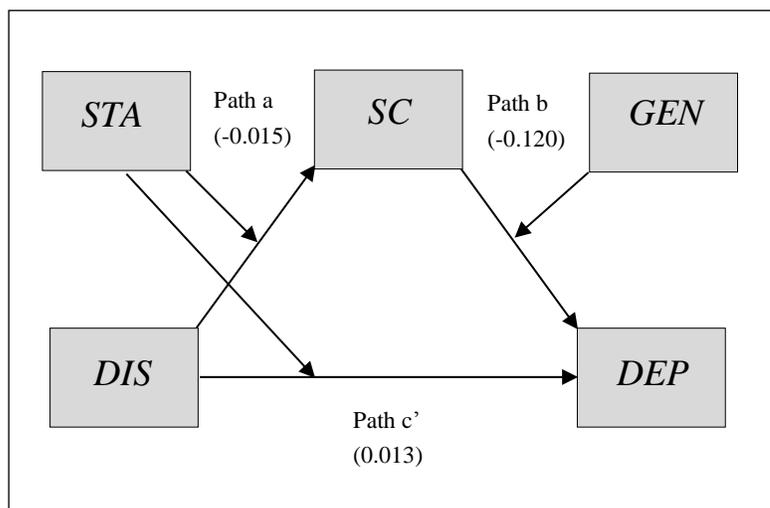


Figure 4.2 *Mediation* model for Hypothesis 1: Self-Care factor.

DIS = Discrepancy
 STA = Standards
 SC = Self-Care
 GEN = gender
 DEP = Depression

Self-disparagement factor. Path a for self-disparagement was significant ($F_{(2, 596)} = 267.671 p < .001$) and explained 47% of the variance in the outcome. Discrepancy was significantly positively related to self-disparagement ($b = 0.038, [0.034, 0.041]$). Path b was significant, with self-disparagement being significantly positively correlated with depression ($b = 0.411, [0.322, 0.500]$). Path c was significant, as discrepancy was positively related to depression ($b = 0.013, [0.010, 0.018]$). The effect of gender on the relationship between overall self-compassion and depression was not significant ($b = 0.164, [-0.543, 0.871]$). The indirect effect of discrepancy on depression through self-disparagement was the product of path a and path b ($0.038 \times 0.411 = 0.016$). The total effect was the sum of direct and indirect effects (0.029).

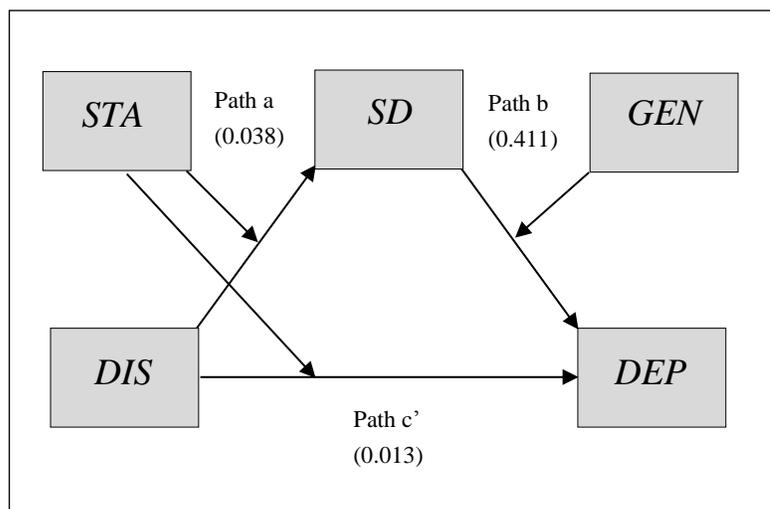


Figure 4.3 *Mediation* model for Hypothesis 1: Self-Disparagement factor.

DIS = Discrepancy
 STA = Standards
 SC = Self-Disparagement
 GEN = gender
 DEP = Depression

Hypothesis 2. To test the second hypothesis that self-compassion will mediate the relationship between maladaptive perfectionism and eating concerns, the Hayes PROCESS Macro (Hayes, 2013) was used to test each path in the mediation model. The model included eating concerns as the dependent variable, discrepancy as the independent variable, self-compassion as the mediator, standards as the control to indicate maladaptive perfectionism, and gender as the moderator for the effect of self-compassion on eating concerns (Figure 4). Consistent with recent research (Hayes, Lockard, Janis, & Locke, 2016), self-compassion was analyzed by its two factors, self-care and self-disparagement. Results are reported for each of the two factors (Table 4).

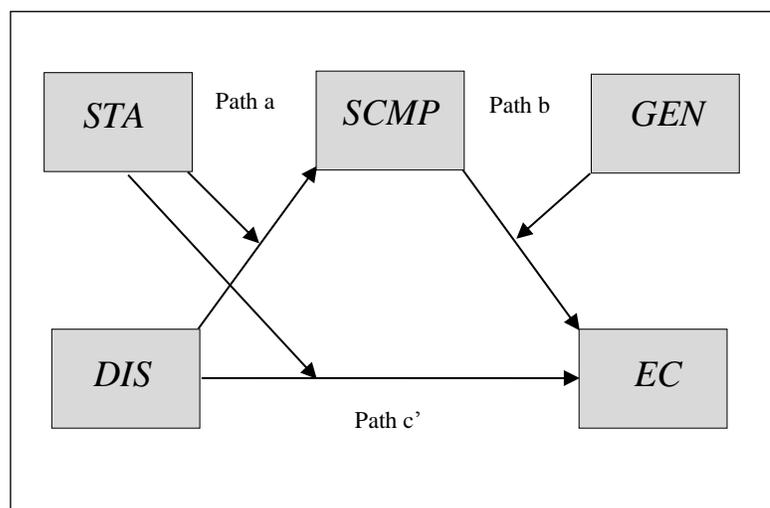


Figure 4.4 *Mediation* model for Hypothesis 2.

DIS = Discrepancy

STA = Standards

SCMP = Self-Compassion (Self-Care and Self-Disparagement)

GEN = gender

EC = Eating Concerns

Self-Care factor. The overall model was significant ($F_{(7, 591)} = 20.860, p < .001$) and explained 20% of the variance in eating concerns. Path a for self-care was significant ($F_{(2, 596)} = 53.245, p < .001$) and explained 15% of the variance in the outcome. Discrepancy was negatively related to self-care ($b = -0.015, [-0.019, -0.012]$). Path b was not significant, as self-care was not significantly correlated with eating concerns ($b = -0.060, [-0.175, 0.054]$). Path c was significant, as discrepancy was positively related to eating concerns ($b = 0.012, [0.007, 0.017]$). The effect of gender on the relationship between overall self-compassion and eating concerns was not significant ($b = -0.245, [-1.118, 0.629]$). The indirect effect of discrepancy on eating concerns through self-care was the product of path a and path b ($-0.015 \times -0.060 = 0.001$). The total effect was the sum of direct and indirect effects (0.013).

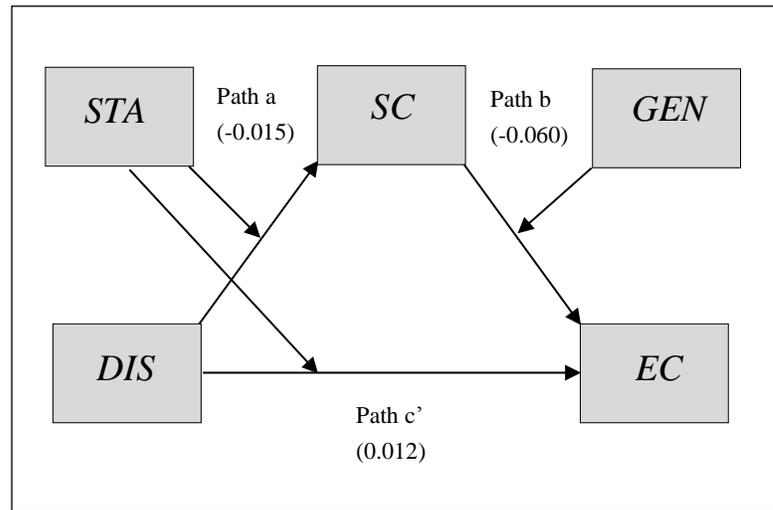


Figure 4.5 *Mediation* model for Hypothesis 2: Self-Care factor.

DIS = Discrepancy
 STA = Standards
 SC = Self-Care
 GEN = gender
 EC = Eating Concerns

Self-disparagement factor. Path a for self-disparagement was significant ($F_{(2, 596)} = 267.671, p < .001$) and explained 47% of the variance in the outcome. Discrepancy was positively related to self-disparagement ($b = 0.038, [0.034, 0.041]$). Path b was significant, with self-disparagement being positively correlated with eating concerns ($b = 0.129, [0.019, 0.240]$). Path c was significant, as discrepancy was positively related to eating concerns ($b = 0.012, [0.007, 0.017]$). The effect of gender on the overall relationship between self-compassion and eating concerns was not significant ($b = -0.245, [-1.118, 0.629]$). The indirect effect of discrepancy on eating concerns through self-disparagement was the product of path a and path b ($0.038 \times 0.129 = 0.005$). The total effect was the sum of direct and indirect effects (0.017).

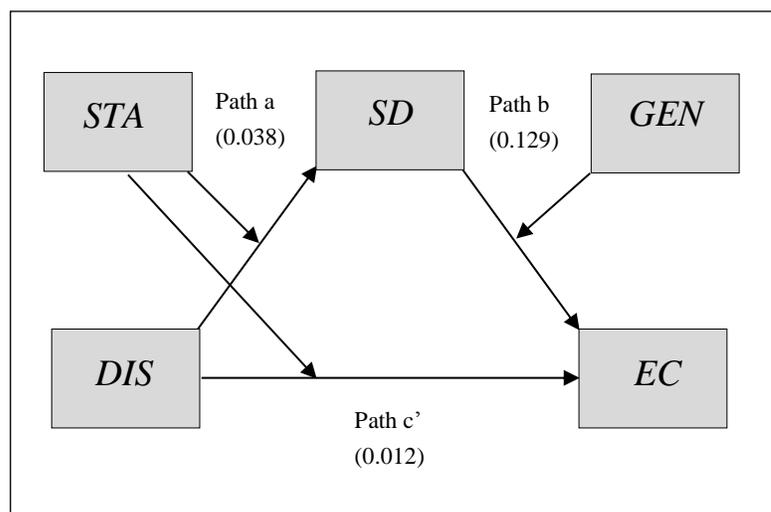


Figure 4.6 *Mediation* model for Hypothesis 2: Self-Disparagement factor.

DIS = Discrepancy
 STA = Standards
 SD = Self-Disparagement
 GEN = gender
 EC = Eating Concerns

Post-hoc analyses

Mediation analyses for eating concerns excluding zero endorsed.

In order to address the negatively skewed distribution of the eating concerns subscale, the same mediation analyses were also conducted a second way, by excluding all cases in which none of the items of the subscale were endorsed. The Hayes PROCESS Macro (Hayes, 2013) was used to test each path in the mediation model. Consistent with the original hypotheses, the model included eating concerns as the dependent variable, discrepancy as the independent variable, self-compassion as the mediator, standards as the control to indicate maladaptive perfectionism, and gender as the moderator for the effect of self-compassion on eating concerns. Self-compassion was analyzed by its two factors, self-care and self-disparagement. Results are reported for each of the two factors (Table 5).

Self-Care factor. The overall model was significant ($F_{(7, 553)} = 16.358, p < .001$) and explained 17% of the variance in eating concerns. Path a for self-care was significant ($F_{(2, 558)} = 46.139, p < .001$) and explained 14% of the variance in the outcome. Discrepancy was negatively related to self-care ($b = -0.015, [-0.018, -0.012]$). Path b was not significant, as self-care was not significantly correlated with eating concerns ($b = -0.063, [-0.182, 0.055]$). Path c was significant, as discrepancy was positively related to eating concerns ($b = 0.012, [0.007, 0.017]$). The effect of gender on the relationship between overall self-compassion and eating concerns was not significant ($b = -0.450, [-1.371, 0.470]$). The indirect effect of discrepancy on eating concerns through self-care was the product of path a and path b ($-0.015 \times -0.063 = 0.001$). The total effect was the sum of direct and indirect effects (0.013).

Self-disparagement factor. Path a for self-disparagement was significant ($F_{(2, 558)} = 229.671, p < .001$) and explained 45% of the variance in the outcome. Discrepancy was positively related to self-disparagement ($b = 0.036, [0.033, 0.040]$). Path b was not significant, as self-disparagement was not significantly correlated with eating concerns ($b = 0.108, [-0.007, 0.223]$). Path c was significant, as discrepancy was positively related to eating concerns ($b = 0.012, [0.007, 0.017]$). The effect of gender on the overall relationship between self-compassion and eating concerns was not significant ($b = -0.450, [-1.371, 0.470]$). The indirect effect of discrepancy on eating concerns through self-disparagement was the product of path a and path b ($0.036 \times 0.108 = 0.004$). The total effect was the sum of direct and indirect effects (0.016).

Hierarchical regression analyses. As reported in the mediation analyses section above, the overall mediation models for both depression and eating concerns were significant. However, it was also important to determine the unique variance each variable contributed to the models, and hierarchical regression was selected as an appropriate approach. Hierarchical regression (e.g., also called sequential or blocked regression) involves entering separate blocks of variables to determine how much of the variance in the outcome is explained by each block.

Depression. A hierarchical regression was run using three blocks: maladaptive perfectionism, self-compassion (self-care and self-disparagement), interaction of self-compassion and gender. Each block was significant (Table 6). Maladaptive perfectionism explained the most variance at 37% ($p < .001$). Self-compassion explained 14% of the variance that had not yet been explained ($p < .001$). The interaction of self-compassion and gender explained only 0.01% of the remaining variance ($p < .05$). Maladaptive perfectionism explained approximately 2.5 times the amount of variance explained by self-compassion.

Eating concerns. A hierarchical regression was run using three blocks: maladaptive perfectionism, self-compassion (self-care and self-disparagement), interaction of self-compassion and gender. Each block was significant (Table 7). Maladaptive perfectionism explained the most variance at 12% ($p < .001$). Self-compassion explained 2% of the variance that hadn't yet been explained ($p < .001$). The interaction of self-compassion and gender explained only 6% of the remaining variance ($p < .01$).

Eating concerns zero endorsed. A hierarchical regression was conducted excluding cases in which zero items on the Eating Concerns subscale were endorsed. The hierarchical regression was run using three blocks: maladaptive perfectionism, self-compassion (self-care and self-disparagement), interaction of self-compassion and gender (Table 8). Maladaptive perfectionism explained the most variance at 10% ($p < .001$). Self-compassion explained 2% of the variance that hadn't yet been explained ($p < .001$). The interaction of self-compassion and gender explained 6% of the remaining variance ($p < .001$).

Summary of hierarchical regression analyses. Maladaptive perfectionism was found to have the largest influence on both depression and eating concerns, and explained significantly more of the variance than self-compassion. The interaction of self-compassion and gender did not explain a significant amount of variance in depression. However, the interaction of self-compassion and gender did explain a significant amount of variance in eating concerns,

specifically for the self-disparagement factor, but not the self-care factor. When the cases that endorsed zero items on the eating concerns subscale were removed, the interaction of self-compassion (self-care and self-disparagement) and gender did not explain a significant amount of variance in eating concerns.

Testing overall mediation models for the additional CCAPS subscales. In order to examine whether the mediation models that were proposed in this study were specific to depression and eating concerns, a series of additional mediation analyses using the Hayes PROCESS Macro were run on the following outcome variables: Generalized Anxiety, Social Anxiety, Substance Use, Hostility, Family Distress, and Academic Distress. Self-compassion was analyzed by its two factors, self-care and self-disparagement (Table 9).

Five of the six outcome variables testing the overall mediation models were significant. Although the mediation models for generalized anxiety ($F_{(4,594)} = 60.496, p < .001$), social anxiety ($F_{(4,594)} = 91.290, p < .001$), hostility ($F_{(4,594)} = 43.064, p < .001$), family distress ($F_{(4,594)} = 19.153, p < .001$), and academic distress ($F_{(4,594)} = 61.424, p < .001$), all were significant, substance use was not significant.

Additionally, results showed that with generalized anxiety, hostility, and social anxiety, the mediation models were significant for both the self-care and self-disparagement factors. However, when examining the Family Distress and Academic Distress CCAPS subscales, the mediation models were significant for self-disparagement but not for self-care. Thus, the hypothesized mediation models fit the Depression and Eating Concerns CCAPS subscales, as well as all other subscales with the exception of Substance Abuse.

Differences between types of perfectionists. To examine whether the results are specific to maladaptive perfectionism, the influence of each of the three groups of perfectionists on self-compassion was tested using an ANOVA. First, the variables were recoded based on the procedures used for identifying cut off scores (Rice & Ashby, 2007) which established three

groups of perfectionists: non-perfectionists, adaptive perfectionists, and maladaptive perfectionists. If the standards score was less than 42 the case was labeled as non-perfectionist. If the standards score was greater than or equal to 42 and the discrepancy score was less than 42, the case was labeled as adaptive perfectionist. If the standards score was greater than or equal to 42 and the discrepancy scores was greater than or equal to 42, the case was labeled as maladaptive perfectionist.

Means and standard deviations for each type of perfectionist are reported for self-care and self-disparagement (Table 4.10). Both self-compassion factors varied among the three types of perfectionists. This information is in Table 4.10 and also is visually represented in Figures 4.7 and 4.8. Self-care varied by type of perfectionist ($F_{(2,603)} = 23.370, p < .001$; Table 4.11) as well as self-disparagement ($F_{(2,603)} = 80.933, p < .001$; Table 4.12). Levene's test of homogeneity of variances found that there were significant differences in the variances for self-care, between the three types of perfectionists. Thus, Tamhane's test (T_2) was used as the post-hoc analysis as this is indicated when Levene's test shows significant differences in the variances. Adaptive perfectionists reported that the highest level of self-care with a mean score of 3.51 out of 5 (Figure 4.7). Non-perfectionists reported the second highest level of self-care with a mean score of 2.95. Maladaptive perfectionists reported the lowest level of self-care with a mean of 2.90. The mean differences were significant for non-perfectionists and adaptive perfectionists, and for adaptive perfectionists and maladaptive perfectionists, but not for non-perfectionists and maladaptive perfectionists. It was expected that self-care would be lowest for maladaptive perfectionists who have been identified as having high standards but have difficulty being kind and compassionate toward themselves in the face of a perceived failure (Neff, 2003b).

Levene's test of homogeneity of variances found that there were significant differences in the variances for self-disparagement, between the three types of perfectionists. Thus, Tamhane's test (T_2) was used as the post-hoc analysis as this is indicated when Levene's test shows

significant differences in the variances. Maladaptive perfectionists reported the highest level of self-disparagement with a mean score of 3.92. Non-perfectionists reported the second highest level of self-disparagement with a mean score of 3.30. Adaptive perfectionists reported the lowest level of self-disparagement with a mean score of 2.53. Again, this finding was expected given that maladaptive perfectionists are typically self-critical and have difficulty approaching their perceived failures with self-care and kindness (Neff, 2003b; Hayes, Lockard, Janis, & Locke, 2016).

Table 4.2

Normality of Regressions

Variable name	Mean	Standard Deviation	Median	Range	Skewness	Kurtosis	α
Discrepancy	50.0	18.4	50.0	72.0	-.073	-.927	.951
Standards	40.4	7.3	42.0	42.0	-1.356	2.729	.878
Self- Disparagement	3.4	1.0	3.5	4.0	-.486	-.532	.864
Self-Care	3.0	0.8	3.0	4.0	-.023	-.172	.789
Depression	1.6	0.9	1.5	3.9	.183	-.822	.913
Eating Concerns	1.0	0.9	.8	4.0	.895	-.010	.889

Table 4.3

Correlations among Continuous Measures

Variable name	Standards	Discrepancy	Self-Disparagement	Self-Care	Eating	Depression
Standards	1					
Discrepancy	.165**	1.				
Self-Disparagement	.109**	.685**	1			
Self-Care	.165**	-.311**	-.354**	1		
Eating Concerns	.028	.338**	.328**	-.215**	1	
Depression	-.081*	.579**	.660**	-.408**	.392**	1

Note: * $p < .05$, ** $p < .01$

Table 4.4

Regression Coefficients for Mediation Models

Path	Depression		Eating Concerns	
	<i>b</i> (SE)	[CI]	<i>b</i> (SE)	[CI]
Disc→Self-Care	-0.015 (0.002)***	[-0.018, -0.012]	-0.015 (0.002)***	[-0.018, -0.012]
Disc→Self-Disp	0.038 (0.002)***	[0.034, 0.041]	0.038 (0.002)***	[0.034, 0.041]
Self-Care→Outcome	-0.120 (0.047)*	[-0.213, -0.028]	-0.060 (0.058)	[-0.175, 0.054]
Self-Disp→ Outcome	0.411 (0.045)***	[0.322, 0.500]	0.129 (0.056)*	[0.019, 0.240]
Disc→Outcome	0.013 (0.002)***	[0.009, 0.018]	0.012 (0.003)***	[0.007, 0.017]
Moderator (Men)	0.164 (0.360)	[-0.543, 0.871]	-0.245 (0.445)	[-1.118, 0.629]
Control (Standards)	-0.020 (0.004)***	[-0.027, -0.012]	-0.004 (0.005)	[-0.013, 0.006]
Indirect Effect for Self-Care	0.0018	n/a	0.001	n/a
Indirect Effect for Self-Disparagement	0.016	n/a	0.005	n/a
Total Effect for Self-Care	0.015	n/a	0.013	n/a
Total Effect for Self-Disparagement	0.029	n/a	0.017	n/a
R ² for Self-Disparagement Model = .473***				
R ² for Self-Care Model = .152***				
R ² for Mediation Model (Depression) = .520***				
R ² for Mediation Model (Eating Concerns) = .198***				

Note: *b* = unstandardized regression coefficient

p* < .05, ** *p* < .01, * *p* < .001

Table 4.5

Regression Coefficients for Mediation Model Excluding Zero Endorsed Eating Concerns

Path	Eating Concerns	
	<i>b</i> (<i>SE</i>)	[CI]
Disc→Self-Care	-0.015 (0.002)***	[-0.018, -0.012]
Disc→Self-Disp	0.036 (0.002)***	[0.033, 0.040]
Self-Care→Outcome	-0.063 (0.060)	[-0.182, 0.055]
Self-Disp→ Outcome	0.108 (0.058)	[0.007, 0.223]
Disc→Outcome	0.012 (0.003)***	[0.007, 0.017]
Moderator (Men)	-0.450 (0.469)	[-1.371, 0.470]
Control (Standards)	-0.002 (0.005)	[-0.012, 0.008]
Indirect Effect for Self-Care	0.001	n/a
Indirect Effect for Self-Disparagement	0.004	n/a
Total Effect for Self- Care	0.013	n/a
Total Effect for Self- Disparagement	0.016	n/a

Note: *b* = unstandardized regression coefficient

p* < .05, ** *p* < .01, * *p* < .001

Table 4.6

Hierarchical Regression Model for Depression

	Block 1		Block 2		Block 3	
	<i>b</i>		<i>b</i>		<i>b</i>	
Standards	-0.024	***	-0.019	***	-0.020	***
Discrepancy	0.031	***	0.013	***	0.013	***
Self-Disparagement			0.421	***	0.401	***
Self-Care			-0.168	***	-0.132	**
Self-Disparagement x Men					0.033	
Self-Care x Men					-0.084	
R ²	0.370	***	0.512	***	0.519	***
Change in R ²			0.142	***	0.007	***

Note: *b* = beta, the unstandardized regression coefficient

p* < .05, *p* < .01, ****p* < .001

Table 4.7

Hierarchical Regression Model for Eating Concerns

	Block 1		Block 2		Block 3	
	<i>b</i>		<i>b</i>		<i>b</i>	
Standards	-0.004		-0.001		-0.004	
Discrepancy	0.017	***	0.010	***	0.012	***
Self-Disparagement			0.137	**	0.144	**
Self-Care			-0.101	*	-0.044	
Self-Disparagement x Men					-0.096	*
Self-Care x Men					-0.043	
R ²	0.116	***	0.139	***	0.198	***
Change in R ²			0.023	***	0.058	***

Note: *b* = beta, the unstandardized regression coefficient

p* < .05, ** *p* < .01, **p* < .001

Table 4.8

Hierarchical Regression Model for Eating Concerns Excluding Zero Endorsed

	Block 1		Block 2		Block 3	
	<i>b</i>		<i>b</i>		<i>B</i>	
Standards	-0.002		0.000		-0.002	
Discrepancy	0.015	***	0.009	**	0.011	***
Self-Disparagement			0.129	*	0.134	**
Self-Care			-0.081		-0.034	
Self-Disparagement x Men					-0.096	
Self-Care x Men					-0.039	
R ²	0.095	***	0.113	**	0.170	***
Change in R ²			0.018	**	0.057	***

Note: *b* = beta, the unstandardized regression coefficient

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 4.9

Self-Compassion Mediation Models for Additional CCAPS Subscales

	Gen. Anx.	Soc. Anx.	Academic	Family	Hostility	Sub. Use
Path	<i>b</i> (SE)					
Dis→						
SD	.038 (.002)	.038 (.002)	.038 (.002)	.038 (.002)	.038 (.002)	.038 (.002)
Dis→						
SC	-.015 (.002)	-.015 (.002)	-.015 (.002)	-.015 (.002)	-.015 (.002)	-.015 (.002)
SD→						
Out	.329 (.047)	.425 (.043)	.156 (.050)	.179 (.051)	.189 (.047)	.089 (.049)
SC→						
Out	-.176 (.047)	0.161 (.044)	-.010 (.050)	-.043 (.051)	-.176 (.047)	.031 (.050)
Dis→						
Out	.008 (.003)	.007 (.002)	.021 (.005)	.008 (.003)	.011 (.003)	.002 (.003)
Control						
(Stand)	.006 (.005)	-.021 (.004)	-.043 (.005)	-.014 (.005)	-.008 (.005)	-.002 (.005)
Ind Eff						
(SD)	.013 (n/a)	.016 (n/a)	.158 (n/a)	.007 (n/a)	.013 (n/a)	.003 (n/a)
Ind Eff						
(SC)	.003 (n/a)	-.002 (n/a)	.000 (n/a)	.001 (n/a)	.003 (n/a)	.000 (n/a)
Tot Eff						
(SD)	.021 (n/a)	.023 (n/a)	.027 (n/a)	.015 (n/a)	.024 (n/a)	.005 (n/a)
Tot Eff						
(SC)	.011 (n/a)	.005 (n/a)	.021 (n/a)	.009 (n/a)	.014 (n/a)	.002 (n/a)
R ² (SD						
Model)	.473***	.473***	.473***	.473***	.473***	.473***
R ² (SC						
Model)	.152***	.152***	.152***	.152***	.152***	.152***
R ² Med						
Model	.290***	.381***	.293***	.114***	.225***	.016

Note: *b* = beta, the unstandardized regression coefficient

* $p < .05$, ** $p < .01$, *** $p < .001$

Dis = Discrepancy, SD = Self-Disparagement, SC = Self-Care, Out = Outcome, Control (Stand) = Standards, Ind Eff = Indirect Effect, Tot Eff = Total Effect, R² Med Model = R² Mediation Model

Table 4.10

Descriptives by type of perfectionist

Self-Compassion factor	Perfectionist type	N	Mean	Std. Deviation
Self-Disparagement	Nonperfectionist	303	3.3	0.9
	Adaptive Perfectionist	92	2.5	0.9
	Maladaptive Perfectionist	211	3.9	0.8
Self-Care	Nonperfectionist	303	2.9	0.7
	Adaptive Perfectionist	92	3.5	0.7
	Maladaptive Perfectionist	211	2.9	0.8

Table 4.11

Self-care and perfectionist type

Outcome	Grouping Variable		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	η^2
Self-care	Perfectionist Type	Between Groups	26.74	2	13.37	23.37***	0.072
		Within Groups	344.94	603	0.57		

*** $p < .001$

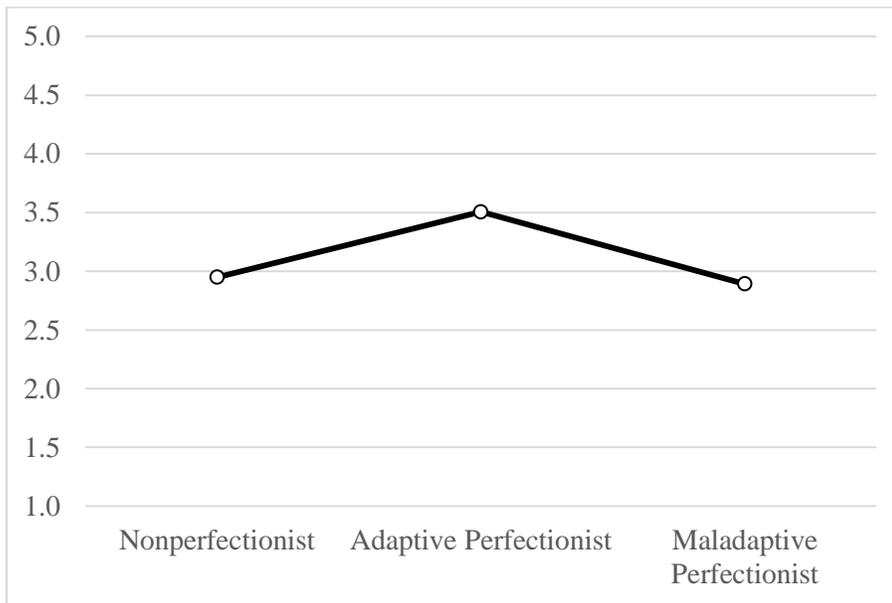


Figure 4.7. Group means for type of perfectionist by self-care.

Table 4.12

Self-disparagement and perfectionist type

Outcome	Grouping Variable		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	η^2
Self-disparagement	Perfectionist Type	Between Groups	128.85	2	64.43	780.93***	0.212
		Within Groups	480.01	603	0.80		

*** $p < .001$

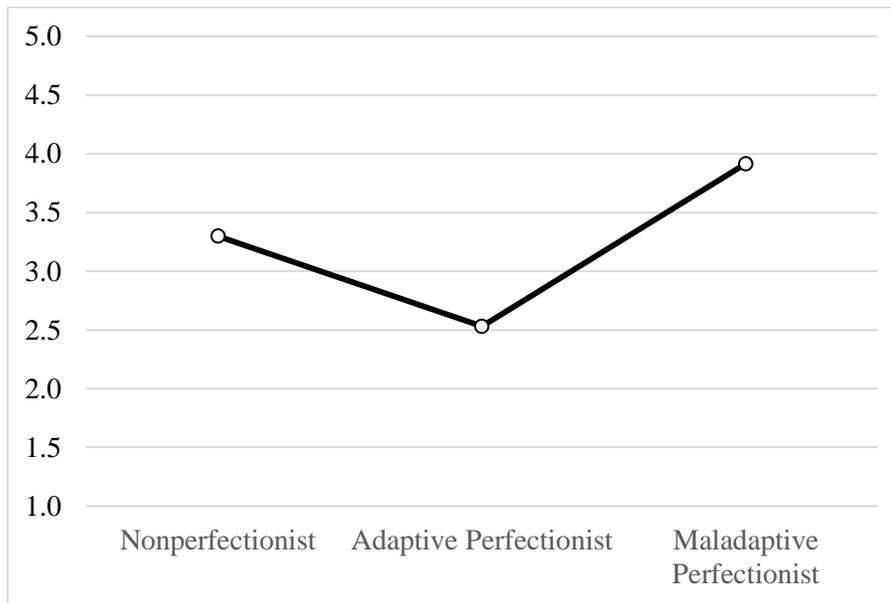


Figure 4.8 Group means for type of perfectionist by self-disparagement.

Chapter 5

Discussion

Introduction

University counseling centers play a vital role in providing outreach, crisis intervention, and psychological treatment to college students, who are utilizing services at higher rates than in the past (CCMH, 2015). Given the increase in demand and the prevalence of mental health concerns such as depression and eating concerns, it is important for counseling center clinicians to understand the factors that may influence the severity of client distress and may inform treatment.

Primary analyses

In this study, self-compassion served as a mediator of the relationship between maladaptive perfectionism and depression. More specifically, based on the two factors supported in Hayes et al., (2016), partial mediation was found for both self-compassion factors, self-care and self-disparagement, which indicated that the hypothesized models were supported. Consistent with previous studies (Flett et al., 1991; Hayes, Lockard, Janis, Locke, 2016; Kawamura et al., 2001), these findings provide some additional evidence that counseling center clients who report distress associated with depression may be more likely to engage in self-disparagement and less likely to practice self-care, leading to potential vulnerability to ongoing mental health problems. These results suggest that the negative cognitive style, characteristic of both maladaptive perfectionism and depression, may contribute to the relationship between the two variables. Additionally, the similarities between negative cognitive style associated with maladaptive perfectionism and self-disparagement may be indicating that maladaptive perfectionism and both self-care and self-disparagement cannot easily co-exist or co-occur within a client.

Self-compassion also served as a mediator of the relationship between maladaptive perfectionism and eating concerns. Examining the results by the two factors supported by Hayes

et al.'s (2016) study, partial mediation was found for both self-compassion factors, self-care and self-disparagement, demonstrating that the hypothesized models were supported. The results suggest that counseling center clients who report eating concerns may be more likely to engage in self-disparagement and less likely to practice self-care. While the mediation models for both outcome variables, depression and eating concerns, were significant, more of the variance in depression was accounted for by the mediation models than in the eating concerns models. This finding is somewhat surprising, as the existing literature has consistently demonstrated the relationship between maladaptive perfectionism and eating concerns/disorders (Bardone-Cone et al., 2009; Barnett & Sharp, 2016; Fairburn, Cooper, Doll & Welch, 1999) and the relationship between self-compassion and eating concerns/disorders (Barnett & Sharp, 2016; Braun, Park, & Gorin, 2016; Stuart, 2009). However, when examining the Self-Care factor in the mediation model with eating concerns as the outcome, the relationship was not significant.

Perhaps this finding makes more sense if we consider that the Self-Care factor represents the positive aspects of self-compassion that involve: practicing kindness toward oneself, taking a mindful approach to upsetting events, embracing failure as part of being human, and reminding oneself that feeling inadequate is a common experience. Given that the self-disparagement factor represents the absence of self-compassion, it seems to be more closely connected to the distress associated with eating concerns. This interpretation is supported by a study examining the construct validity of the SCS-SF in which the correlations were greater between the CCAPS subscale scores and self-disparagement scores than between the CCAPS subscale scores and self-care (Hayes et al. 2016).

In examining the relative importance of each variable for both the depression and eating concerns models in the hierarchical regression analyses, maladaptive perfectionism explained the most variance, then self-compassion (both self-care and self-disparagement), and then the interaction of self-compassion and gender. This finding is not necessarily surprising given that the

negative cognitive style that is characteristic of maladaptive perfectionists is typically present among individuals with symptoms of depression and eating concerns. The aim of this study was to determine if self-compassion is a mediator of those relationships between maladaptive perfectionism and depression and eating concerns, and this hypothesis was supported. Although self-compassion (both self-care and self-disparagement) accounted for less variance than maladaptive perfectionism, this current study did demonstrate that in a clinical sample of college students, self-compassion was able to explain, in part, the nature of these relationships.

The current study examined self-compassion using the two-factor model that was recently identified in a study of the construct validity of the SCS-SF (Hayes et al., 2016). Given that the authors did not find support for the existing factor structure of the SCS-SF that was proposed by Raes et al. (2011), the current study benefited from utilizing this two-factor model that was supported in a clinical sample of college students. A second advantage of examining self-compassion using the two factors, self-care and self-disparagement, is that we can take a more nuanced look at the relationship of each specific path. Overall, the results of all four primary mediation models found that both self-care and self-disparagement mediated the relationships between maladaptive perfectionism and depression and maladaptive perfectionism and eating concerns. However, the two-factor approach showed that for all four models, the self-disparagement factor explained more of the variance in outcomes (47%) than did self-care (15%). These results make sense given that we are really seeing the effects of self-disparagement as a mediator of the relationships between maladaptive perfectionism and depression and eating concerns. Further adding to the argument presented earlier that discrepancy and self-disparagement truly are separate constructs, in the mediation model using depression as the outcome, discrepancy completely drops out once self-disparagement is added, indicating a fully mediated model. This finding is consistent with Hayes et al.'s (2016) study which found higher correlations between self-disparagement scores and the CCAPS distress scales, than between self-

care and the CCAPS subscales. Hayes et al. also suggested that in college students seeking counseling center services, the SCS-SF seems to best capture the harsh and self-critical ways of being associated with self-disparagement, whereas the self-care factor captured the kinder and more compassionate approach to treating oneself. In a clinical sample of college students, it seems reasonable to assume that more students are able to endorse the negatively worded questions more than the positively worded ones.

Gender was hypothesized to be a moderator in the mediation models proposed in this study, however, the results did not support this. In the mediation models examining both outcomes (depression and eating concerns), gender was not significant, indicating that identifying as a woman did not have a significant effect on the overall model. Thus, based on the present results, there is no evidence to suggest that gender differences influence the mediation models. One potential reason gender was not significant may be that for college students seeking treatment, regardless of gender, endorsing self-disparaging views is associated with depression and eating concerns. Previous research has established links between gender and self-compassion, eating concerns, depression, and maladaptive perfectionism (Yarnell et al., 2015), so this finding is somewhat surprising. However, the current study utilized treatment-seeking college students, as opposed to adult clinical samples or non-clinical college student samples, therefore the results may vary in such a way that gender becomes less influential among these students.

Post-hoc analyses

Based on the highly-skewed distribution of the Eating Concerns subscale in the present study, the mediation analyses were also conducted a second way, by excluding cases in which zero items were endorsed. By eliminating the zero endorsed cases, the results showed differences in the relationship between self-disparagement and eating concerns. Self-disparagement was positively correlated with eating concerns when the zero endorsed cases were included, however self-disparagement was not significantly correlated with eating concerns when the zero endorsed

cases were excluded. It appears that restricting the range of scores by eliminating the zero endorsed cases indicates that the relationship between these variables is not well understood, since it makes more sense that eliminating the zero endorsed would still demonstrate a significant correlation between self-disparagement and eating concerns.

After testing the mediation models on the remaining CCAPS subscales, it was found that all models were significant with the exception of substance abuse. This finding is consistent with some existing research showing that college students may not find their substance use particularly problematic (Hayes et al., 2016) and therefore it does not demonstrate a relationship with self-compassion. The results seem appropriate for the Anxiety subscale in that depression and anxiety are highly correlated, and students who endorse symptoms of anxiety may also be fairly perfectionistic. One benefit of these findings that the mediation models were significant for all but one CCAPS subscale, is that the concept of self-compassion may be more widely applicable to these areas of distress and potentially offer a clinical approach that can be utilized broadly with counseling center clients.

Given that the mediation models were significant for both self-care and self-disparagement and explained a sizeable amount of the variance in depression, it seems that this model was appropriate. Although the mediation models were significant for both self-care and self-disparagement, they explained less of the variance in eating concerns than in depression. One potential explanation for this could be that the Eating Concerns subscale is a measure of distress related to weight, body appearance, dieting, purging, and feelings associated with eating habits. It does not include items related to fear of gaining weight, actual change in weight, amenorrhea, bingeing, or the chronic nature of the eating behaviors. Previous studies examining the relationships between these variables have used different measures such as the EDI-2 or the EAT-26, which can provide more diagnostic information in addition to measuring distress (Barnett & Sharp, 2016; Braun, Park, & Gorin, 2016; Stuart, 2009). Thus, using the CCAPS Eating Concerns

subscale is beneficial in that it was created for use in counseling centers and normed on college students, but it may be measuring different aspects of problematic eating.

The differences in self-compassion among the three types of perfectionists highlighted the way in which maladaptive perfectionism may be particularly detrimental for clients. Adaptive perfectionists reported the highest levels of self-compassion, maladaptive perfectionists reported the lowest levels of self-compassion, and self-compassion in non-perfectionists fell in between. It is noteworthy that adaptive perfectionists were most self-compassionate, suggesting that holding high personal standards may lead to increased well-being, as long as those standards are being met fairly consistently. However, for maladaptive perfectionists, having high expectations and consistently failing to meet those expectations may lead to maintaining or exacerbating a pre-existing negative cognitive style, making it more challenging to engage in self-compassion.

Limitations

This study utilized a sample of treatment-seeking college students and results should only be generalized to other students seeking services at college counseling centers. Researchers and clinicians should exercise more caution when generalizing beyond this population, given that a clinical sample of college students may look very different from adult clinical populations or general college populations as far as levels of distress and resilience.

Another limitation is that data were only collected at one point in time, at intake, and are therefore only capturing an initial picture of distress associated with perfectionism, self-compassion, depression, and eating concerns. This snapshot approach supports the proposed self-compassion mediation models, but does not provide information about how these variables interact over time in therapy with college students.

Future Research

One study has already examined reported levels self-compassion (using the SCS-SF) and psychological distress (CCAPS) at intake, and distress at termination (CCAPS), during the course

of short term therapy in college counseling centers (Van Epps, 2015). Results of this study showed clients who reported high levels of psychological distress at intake and lower levels of self-compassion, were actually the clients who demonstrated the most improvement (change in distress measured by the CCAPS) over the course of treatment. While there may be a variety of factors influencing this relationship, it suggests that clients who lack self-compassion might be developing more compassionate and kind self-perceptions during therapy, that lead to better outcomes. However, self-compassion was related to greater change in therapy for clients reporting lower levels of distress. This study was limited in that it does not address change in self-compassion over time in individual therapy, as it only measured self-compassion at intake. It would be interesting in future studies to examine the relationship between distress and self-compassion during the course of therapy, by administering the SCS and CCAPS at each session. Additionally, future research could examine the effects of therapists intentionally incorporating self-compassion into sessions, on all of the CCAPS subscales, since the results of the additional mediation analyses supported the models in all subscales but Substance Abuse.

Implications for Clinical Work in University Counseling Centers

Although self-compassion has been conceptualized primarily as being a relatively-stable trait (Neff, 2003a, 2003b), recent studies using non-clinical samples have demonstrated that group interventions designed to increase self-compassion have been effective (Neff and Germer, 2013). This suggests that counseling center clients may also benefit from a treatment approach that begins by introducing self-compassion, specifically self-care, as a desired state that can be practiced and learned. Once self-care can be utilized by clients occasionally, then it may be helpful for clinicians to encourage clients to generalize this approach which could lead to self-care becoming a trait. Given that the current study supported the mediation models for both outcomes, this indicates that self-care influences the relationship between maladaptive perfectionism and both depression and eating concerns. Knowing that maladaptive perfectionism

tends to be more trait-like than state-like, clinicians may be able to facilitate change by challenging maladaptive perfectionists' long-standing self-perceptions and beginning to replace those with more self-compassionate views that emphasize self-care.

University counseling centers play a vital role in providing outreach, prevention, and intervention related to college student mental health. Counseling centers are expected to help students address their psychological concerns so that they can perform academically and remain enrolled at the institution. Although counseling center clinicians work with clients endorsing a variety of presenting concerns, depression (49%) and eating concerns (13.5%) are areas of distress that are characterized by a negative cognitive style and pose specific risks related to lethality. Additionally, perfectionism is a common concern among clients, with counseling center clinicians reporting that 8% of their clients experienced this problem (CCMH, 2016). The current study provides support for a model which indicates that the presence of protective factors such as self-compassion may influence reported levels of psychopathology, including eating concerns and depression. With this in mind, counseling center clinicians may benefit from incorporating components of self-compassion into individual and group interventions that target students with maladaptive perfectionistic traits, and who report symptoms of depression and eating concerns, though as discussed previously, further research on the effectiveness of this intervention is necessary. In addition, counseling centers that are not offering clinics or process groups that incorporate self-compassion could consider doing so. Some counseling centers have already developed these types of programs (e.g., Penn State University, University of Michigan, University of Texas at Austin, Davidson College) and ongoing assessment would be beneficial in order to determine what is effective in terms of group content and format.

Conclusions

College counseling centers are typically responsible for promoting mental health and well-being on campus and treating psychological problems that are impacting student academic

success. The increasing utilization of counseling center services over the past several years (CCMH, 2016) points to a need for clinicians to be informed and intentional about their approach to treatment. The current study provides support for the role of self-compassion as a potential buffer or protective factor against psychological distress associated with depression and eating concerns. Although the results suggest that self-compassion better explains the relationship between maladaptive perfectionism and depression than between maladaptive perfectionism and eating concerns, the mediation models for all of the CCAPS subscales with the exception of substance use were significant. Further research is needed to determine if there are other mediating factors that could help to explain these relationships, and other measures of resilience and protective factors are worth examining.

Appendix A

Center for Collegiate Mental Health (CCMH) Listserv Recruitment Email

Sent July 3, 2012

Dear CCMH Members – I'm very happy to report that the 2012 Standardized Data Set (SDS) updates have been completed and are now available for download within Titanium. These updates resulted from feedback provided by many of you between 2010-2012, extensive research and discussions, and two CCMH advisory board meetings (2011 and 2012) where decisions were made. Please note that the 2012 update also includes 4 new data forms, discussed below. Attached to this email, please find:

- 1) SDS Upgrade Instructions
- 2) SDS Revisions with details

Please review both documents and plan your upgrade to the 2012 SDS at your earliest convenience.

Critical Incident Form:

CCMH has added a new data form for the explicit purpose of tracking and reporting on critical events that occur during, or immediately prior to, treatment. This form should be very helpful to counseling centers when reporting on risk during treatment and illustrating the kind of risk we manage every day. This form will also directly contribute to the national understanding of the serious work done by counseling center staff (e.g., avert suicides, etc.), and will eventually be used to help offer a risk evaluation for incoming clients (i.e., client has a 70% chance of hospitalization...). We encourage everyone to strongly consider using this new data form to contribute to this national effort. We'll offer some additional implementation guidelines soon, but essentially, the form should be completed any time a provider learns of a critical incident.

Resilience Options:

CCMH is introducing two new resiliency options for 2012 that are also now available within Titanium. Because so many schools were interested in resilience, we explored a lot of options and selected two for piloting this year. We'll review the results, data, and your feedback at the end of the year to determine the next steps. Each of these options has the instruments set up as predefined forms that are scored automatically in Titanium. To help us track this effort, please email us if you are going to use one of these options. The instruments only need to be administered at intake. If you're willing to help us explore these options, please plan to administer the questions at intake for at least the fall semester of 2012. We are hopeful to get at least 20-30 schools for each option. The two options are:

- **Option 1:** My Resiliency Factor (MRF) --which was created specifically to assess 4 domains of resilience in college students. We believe this instrument examines several key areas of resilience that are important to college students and we're eager to see how it helps to inform treatment. This instrument was commissioned by LEAD Pittsburgh (<http://www.leadpittsburgh.org/>) during their development of a new "Student Curriculum

on Resilience Education" (SCORE) (<http://www.scoreforcollege.org/>). LEAD is providing some funding to CCMH to pilot/refine this instrument during 2012-2013.

- **Option 2:** Self Compassion Scale and Almost Perfect Scale-Revised. Self-Compassion has been identified by researchers as a potentially important aspect of resilience that may be tied to both mental health symptoms and change during treatment. When combined with a student's perfectionism (adaptive or maladaptive), we believe these two instruments could offer a very interesting set of information to inform both treatment planning and interventions.

CCAPS

The new CCAPS profile report (including cut-off scores, the Distress Index, and updated norms) will be coming soon. Stay tuned :)

For questions about updating Titanium in general, updating from Ti9 to Ti10, or updating the Web Component, please contact Titanium Software at support@titaniumsoftware.com.

For questions on the SDS Updates, the Critical Incident Form, or the Resilience options, please email Allison Lockard at ail5178@psu.edu or ccmh@sa.psu.edu.

Thanks again to everyone for your participation in CCMH! Here's hoping that summer is as restful as it can be!

Best wishes,

Ben

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Appendix B

Penn State University - Counseling and Psychological Services (PSU CAPS)

Informed Consent for Clients to Contribute data to Center for Collegiate Mental Health (CCMH)

CAPS participates in a national research project designed to improve our services and expand the knowledge about college student mental health. We participate by contributing anonymous, numeric data provided by those who use our services (and are over 18 years old) to a database managed by researchers at Penn State University. Data is stripped of all personally identifying information and then combined with anonymous, numeric data from other colleges nationwide for statistical analysis. Because data cannot be linked to specific individuals, there are virtually no risks contributing data. With your permission, we would like to contribute anonymous, numeric data from the questionnaires you just completed. Your decision is voluntary and will not affect the services you receive. If you have questions or concerns, you may contact Dr. Ben Locke at bd110@psu.edu.

Will you allow your anonymous, numeric responses to be contributed?

Yes

No

Appendix C

Almost Perfect Scale – Revised (APS-R)

Slaney, Rice, Mobley, Trippi, & Ashby (2001)

Instructions

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

Respond to each of the items using the scale below to describe your degree of agreement with each item. Fill in the appropriate number circle on the computer answer sheet that is provided.

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.

Appendix D

Self-Compassion Scale – Short Form (SCS-SF)

Raes, Pommier, Neff, & Van Gucht, 2011

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never						Almost always
1		2	3	4		5

- _____ 1. When I fail at something important to me I become consumed by feelings of inadequacy.
- _____ 2. I try to be understanding and patient towards those aspects of my personality I don't like.
- _____ 3. When something painful happens I try to take a balanced view of the situation.
- _____ 4. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
- _____ 5. I try to see my failings as part of the human condition.
- _____ 6. When I'm going through a very hard time, I give myself the caring and tenderness I need.
- _____ 7. When something upsets me I try to keep my emotions in balance.
- _____ 8. When I fail at something that's important to me, I tend to feel alone in my failure
- _____ 9. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
- _____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

_____ 11. I'm disapproving and judgmental about my own flaws and inadequacies.

_____ 12. I'm intolerant and impatient towards those aspects of my personality I don't like.

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EDUCATION

The Pennsylvania State University, University Park, PA Ph.D. expected December 2017
Doctor of Philosophy (Ph.D.) in Counseling Psychology

Shippensburg University of Pennsylvania, Shippensburg, PA M.S. conferred May 2006
Masters of Science (M.S.) in Counseling with a concentration in College Counseling

Kenyon College, Gambier, OH B.A. conferred May 2002
Bachelor of Arts (B.A.) in Psychology with a concentration in Women's Studies

CLINICAL WORK EXPERIENCE

The Pennsylvania State University, University Park, PA January 2016-present
BASICS Counselor, Clinical Services Provider, Counseling and Psychological Services (CAPS)
Provide short term individual Brief Alcohol Screening and Intervention for College Students (BASICS) therapy for students who are mandated to participate in treatment.

PROFESSIONAL PRESENTATIONS

Brown, E., Bieschke, K., **Chun-Kennedy, C.**, & Harris, K. (January, 2011). *African American Students' Perspectives on the Advisory Working Alliance*. Poster presentation at the National Multicultural Summit, Seattle, Washington.

Chun-Kennedy, C., Edens, A., & Hayes, J. (August, 2010). *Distress in students identifying as both sexual and ethnic minorities*. Paper presentation at the American Psychological Association Convention, San Diego, California.

Chun-Kennedy, C., Hayes, J., & Locke, B. (June, 2010). *Utilization of counseling center services by ethnic minorities*. Paper presentation at the International Meeting of the Society for Psychotherapy Research, Asilomar, California.

PUBLICATIONS

Smolak, L. & **Chun-Kennedy, C.** (2013). Sociocultural influences on the development of eating disorders and obesity. In L. Choate (Ed.), *Eating disorders and obesity: A guide to treatment and prevention* (pp. 3-20). Alexandria, VA: American Counseling Association.

Graceffo, J. M., Hayes, J. A., **Chun-Kennedy, C.**, & Locke, B. D. (2012). Characteristics of high-risk college student drinkers expressing high and low levels of distress. *Journal of College Counseling, 15*, 262-273.

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Locke, B., Crane, A., **Chun-Kennedy, C.**, & Edens, A. (Winter, 2009). The Center for the Study of Collegiate Mental Health: A novel practice research network with national reach and a pilot study to match. *Psychotherapy Bulletin, 44*(4), 17-21.