Mindfulness and Self-Compassion Buffer against Depressive and Anxious Symptoms over Two Years: The Moderating Role of Self-Critical Perfectionism

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Abstract

This study of 124 community adults (82 female, 42 males) examined the moderating role of SC perfectionism on mindfulness and self-compassion predicting depressive and anxiety symptoms over two years. At baseline (Time 1), participants completed measures of self-critical (SC) and personal standards (PS) higher-order dimensions of perfectionism. Participants completed mindfulness and self-compassion measures one year later (Time 2), and depressive and anxious symptom measures at Time 1, Time 2, and two years after baseline (Time 3). In contrast to PS, SC perfectionism was moderately to strongly associated with lower levels of mindfulness and self-compassion domains and facets. Hierarchical regression analyses of moderator effects demonstrated that, for individuals higher in SC perfectionism compared to those lower, both domain mindfulness and self-compassion predicted decreases in depressive and anxious symptoms over two years, adjusting for the effects of Time 1 and Time 2 symptoms. For high SC perfectionistic individuals, specific mindfulness facets of observing, describing, nonjudging of inner experience, and nonreactivity to inner experience predicted lower depressive and anxious symptoms at Time 3. Specific self-compassion facets of self-kindness, common humanity, and mindfulness predicted decreases, while self-judgment and over-identification predicted increases, in depressive and anxious symptoms for high SC perfectionists at Time 3. These findings highlight the importance of mindfulness and self-compassion as effective emotion regulation strategies to reduce vulnerability to depressive and anxious symptoms for individuals with higher SC perfectionism.

Keywords: perfectionism, mindfulness, self-compassion, depression, anxiety

Résumé

Cette étude concentrée sur 124 adultes de la communauté (82 femmes, 42 hommes) examine le rôle du perfectionnisme en tant que modérateur des SC sur la pleine conscience et la compassion envers soi et prédit les symptômes dépressifs et anxieux sur une durée de deux ans. Au départ (Temps 1), les participants ont été mesuré par rapport au perfectionnisme autocritique (SC) et aux normes personnelles (PS). Les participants ont complété la mesure de pleine conscience et de compassion un an plus tard (Temps 2), et la mesure de leur symptômes dépressifs et anxieux aux Temps 1, 2, et deux ans depuis le début de l'étude (Temps 3). Contrairement du PS, le perfectionnisme SC est entre modérément et fortement associé avec des niveaux de conscience et de compassion inférieurs. Les analyses de régression hiérarchique des effets modérateurs ont montré que, pour les individus dont le niveau de perfectionnisme était plus élevé que ceux de niveau inférieur, la pleine conscience et la compassion envers soi totales prédisaient une diminution des symptômes dépressifs et anxieux sur deux ans, en ajustant les effets des symptômes du Temps 1 et du Temps 2. Pour les individus perfectionnistes de niveau élevé SC, des composants de pleine conscience, soit observer, décrire, ne pas juger et ne pas réagir par rapport à une expérience personnelle, prédisaient des symptômes dépressifs et anxieux inférieurs au Temps 3. Des composants d'auto-compassion, spécifiquement la bienveillance, l'humanité et la pleine conscience, prédisent une diminution des symptômes dépressifs et anxieux pour les perfectionnistes du SC au Temps 3 alors que le jugement de soi et la sur-identification en prédisaient une augmentation. Ces résultats soulignent l'importance de la vigilance et de la compassion en tant que stratégies efficaces pour réguler les émotions afin de réduire le risque de symptômes dépressifs et anxieux pour des individus avec plus de perfectionnisme SC.

Mots-clés: perfectionnisme, conscience, compassion, dépression, anxiété

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Contribution of Authors

The current longitudinal study is part of a larger study that examined the impact of self-critical (SC) and personal standards (PS) perfectionism on stress generation, emotion regulation, and affect reactivity in a community sample of adults, at three time points over two years. The study was designed by Dr. David M. Dunkley, the principle investigator. I, Ryan Tobin, was responsible for re-contacting participants and for collecting data at Time 2 and Time 3, and for entering and managing data at Time 3. Dr. Dunkley accepted that I use Time 1-3 data (Fall 2015 – Spring 2018) to test my master's thesis' moderation hypotheses of perfectionism influencing the link between mindfulness, self-compassion and depressive and anxious symptoms. Lastly, my master's thesis was written by me and was reviewed by Dr. Dunkley.

Introduction

The World Health Organization (WHO) estimates that there are currently 322 and 264 million worldwide cases of depressive and anxiety disorders, respectively (*Depression and Other Common Mental Disorders: Global Health Estimates*, 2017). Currently, improvements in treating depression and anxiety disorders are necessary, as response rates to medication and cognitive behavioral therapy (CBT) rarely rise above 50% while only 36% of individuals experience sustained benefits 2 years later (Hollon, Cohen, Singla, & Andrews, 2019; National Health Service, 2016). In recent years, research has begun to evaluate the effectiveness of mindfulness and self-compassion in treating anxiety and depression. Empirical evidence suggests that both mindfulness-based (MBIs) and compassion-based interventions (CBIs) are moderately effective in reducing symptoms of depression and anxiety (Hofmann, Sawyer, Witt, & Oh, 2010; Khoury et al., 2013; Kirby, Tellegen, & Steindl, 2017; MacBeth & Gumley, 2012). Researchers and clinicians have found that individuals respond to therapies and interventions differently, suggesting that treatment outcome improvements are possible through identifying which individuals respond best to a specific treatment (Hollon et al., 2019). Rather than "prescribing" MBI and CBIs to society members at large, research is needed to identify for whom mindfulness and self-compassion might be most beneficial in order to maximize response rates to these interventions.

Over the past 30 years, perfectionism has emerged as a trans-diagnostic vulnerability factor that has been linked to several maladaptive psychological outcomes such as anxiety, depression, substance abuse and interpersonal problems (see Bardone-Cone et al., 2007; Dunkley, Blankstein, Masheb, & Grilo, 2006; Egan, Wade, & Shafran, 2011; Flett & Hewitt, 2002). Efforts are needed to mitigate the maladaptive nature of perfectionism and increase short

and long-term response rates to depression and anxiety treatments (Hollon et al., 2019; Mandel, Dunkley, & Moroz, 2015; National Health Service, 2016). More specifically, research is needed to assess whether mindfulness and self-compassion are effective emotion regulation strategies to mitigate depressive and anxious symptoms for perfectionistic individuals. The current study assesses the moderating role of perfectionism influencing the link between mindfulness, self-compassion, and depressive and anxious symptoms over two years.

This introduction will be organized into five sections. First, I will discuss the emergence of mindfulness and self-compassion-based interventions and review their effectiveness in treating depressive and anxious symptoms. Second, I will describe current mindfulness and self-compassion conceptualizations and summarize their relationship with depressive and anxious symptoms. Third, I will differentiate perfectionism's two-higher order dimensions, personal standards (PS) perfectionism and self-critical (SC) perfectionism, while identifying the components that make up these two constructs. Additionally, I will review cross-sectional and longitudinal studies that examine the relationship between perfectionism dimensions and negative outcomes (e.g., distress, negative affect, depressive and anxious symptoms). The fourth section will discuss heightened stress generation, reactivity to stress, and emotional (dys)regulation tendencies that often accompany perfectionistic individuals. Lastly, I will discuss how mindfulness and self-compassion might reduce depressive and anxious symptoms among SC perfectionists. Moreover, I will review mediation and moderation studies that examine the links between mindfulness, self-compassion, perfectionism, and depressive and anxious symptoms.

Mindfulness and Compassion-Based Intervention Effectiveness

Over the past two decades, mindfulness has gained rapid popularity in becoming an influential daily practice for a large subset of the general population while popular media has described mindfulness as a universal panacea for numerous human ailments (Gibbs, 2016; Gunderson, 2016; Huffington, 2013). Mindfulness is commonly referred to as paying attention on purpose to the present moment in a nonjudgmental and nonreactive fashion (Kabat-Zinn, 1990). Mindfulness' popularity has also increased exponentially in the research and clinical communities as a once fringe topic of scientific research transformed into what is now an occasional replacement for psychotherapy (Van Dam et al., 2018).

With growing popularity of mindfulness within western culture also came the rapid development and dissemination of MBIs (Van Dam et al., 2018). In 1990, well before its effectiveness had been established, an estimated 240 mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990) programs existed in North America and Europe (Kabat-Zinn, 1990). MBSR and mindfulness-based cognitive therapy (MBCT; MBCT; Segal, Williams, & Teasdale, 2013) are currently the two most recognized and empirically supported MBIs (Michalak & Heidenreich, 2018). MBSR is an 8-week group program, used in both clinical and nonclinical populations, to alleviate stress and help individuals cope with illness by training them to observe situations and thoughts in a nonjudgmental, nonreactive, and accepting manner (Keng, Smoski, & Robins, 2011; Khoury et al., 2013). Also lasting 8 weeks, MBCT is a group intervention which integrates elements of CBT with mindful meditation aimed at preventing relapse among previously depressed patients (Piet & Hougaard, 2011).

Although research supports MBIs as an effective intervention to reduce depressive and anxious symptoms among a variety of clinical and nonclinical populations, meta-analytic studies

suggest that their effects are only moderate in strength (Goyal et al., 2014; Hofmann et al., 2010; Khoury et al., 2013). In addition, these studies have demonstrated that MBIs are less effective in treating depressive and anxious symptoms when compared to active controls such as CBT (Goyal et al., 2014; Khoury et al., 2013). Interestingly, Dobkin, Irving, and Amar (2011) have found large individual differences in MBI efficacy leading one to question whether society should be investing in mindfulness programs for the general population, or should certain individuals be identified and targeted?

In addition to reducing symptoms of depression and anxiety, mindfulness-based interventions also foster feelings of self-compassion (Birnie, Speca, & Carlson, 2010; Lever Taylor, Strauss, Cavanagh, & Jones, 2014; Shapiro, Astin, Bishop, & Cordova, 2005; Shapiro, Brown, & Biegel, 2007). Self-compassion is referred to as compassion directed inwards, relating to ourselves with concern when experiencing suffering (Neff, 2003). Mindfulness is said to be a precondition and a foundational element of self-compassion whereby being mindful of negative thoughts and emotions increases one's ability to be self-compassionate (Neff, 2003; Neff & Dahm, 2015). Self-compassion has been found to mediate the association between MBIs and improvements in depression and anxious symptoms (Baer, 2010; Duarte & Pinto-Gouveia, 2017; Holzel et al., 2011; Keng, J. Smoski, Robins, G. Ekblad, & G. Brantley, 2012; Kuyken et al., 2010).

Within recent years, self-compassion has received increased attention within the research community with over 200 journal articles and dissertations examining the topic since 2003 (Neff & Dahm, 2015). Compassion-Focused Therapy (CFT; Gilbert, 2014) and Mindful Self-Compassion (MSC; Neff & Germer, 2013) are two widely recognized and empirically supported CBIs. Built upon evolutionary psychology and attachment theory, CFT encourages individuals to

engage with and take action upon their suffering in order to alleviate current, and prevent future suffering (Kirby, 2017). Secondly, built upon Tibetan Buddhist practice and physiological science literature, MSC is an 8 week group program that focuses on cultivating self-compassion through core meditations (e.g., affectionate breathing), other meditations (e.g., compassionate body scan) and informal self-compassion practices (e.g., self-compassion break; Kirby, 2017).

Meta-analytic studies have shown that CBIs are moderately effective in reducing pre-post symptoms of anxiety and depression (Kirby et al., 2017; Krieger et al., 2019; MacBeth & Gumley, 2012; Neff, 2003). A meta-analysis conducted by Wilson, Mackintosh, Power, and Chan (2018) of 22 randomized control trials revealed that CBIs successfully increased self-compassion and reduced levels of depression and anxiety with medium effect sizes but were not more effective than active control conditions.

There is considerable room for improvement when treating depressive and anxious symptoms with MBIs and CBIs as research suggests that they are only moderately effective against wait-list controls and not more effective compared to active controls. In order to better these interventions, efforts are needed to identify subpopulations for which mindfulness and self-compassion are most effective rather than classifying these interventions as universal treatments of depression and anxiety (Hollon et al., 2019).

Mindfulness and Self-Compassion Predicting Depressive and Anxiety Symptoms

Mindfulness Predicting Depressive and Anxiety Symptoms

In the early 2000s, several self-report questionnaires were created with the purpose of empirically measuring how mindfulness is related to various psychological variables (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Early on, researchers debated over whether mindfulness was best conceptualized as a single factor, or made up of several individual factors.

At first, the majority of self-report questionnaires understood mindfulness as a one-dimensional construct (e.g., Brown & Ryan, 2003; Buchheld, Grossman, & Walach, 2001; Chadwick et al., 2008). At the same time, the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004) conceptualized mindfulness differently, as being made of four distinct elements: observing, describing, acting with awareness, and accepting without judgment (Baer et al., 2006). To establish clarity within the field, Baer et al. (2006) combined items from the existing mindfulness measures into one dataset to create a global mindfulness measure. Baer and colleagues (2006) conducted an exploratory factor analysis on the pooled item dataset to develop the 39-item five-factor model of mindfulness. Of the five identified factors, four (i.e., observing, describing, acting with awareness, nonjudgmental acceptance) were subscales already found within the KIMS while items from the remaining mindfulness measures combined to reveal an additional factor, nonreactivity to internal experience.

The Five-Factor Mindfulness Questionnaire (FFMQ; Baer et al., 2006) is currently the most empirically supported and widely used measure of mindfulness and is comprised of five distinct subscales: observing, describing, acting with awareness, nonjudgmental acceptance and nonreactivity. Observing measures the extent to which one notices internal and external experiences. Describing includes labelling internal experiences with words. Acting with awareness refers to attending to one's activities in the present moment. Nonjudgmental acceptance measures the extent to which one takes a non-evaluative approach towards thoughts and feelings. Nonreactivity of inner experience refers to the tendency to allow thoughts and feelings to come and go, without impulsively reacting to them. A domain mindfulness score can be calculated by summing up scores of the five facets.

The FFMQ has shown strong and consistent relations with a variety of psychological outcome variables. Empirical research has reported strong inverse correlations between FFMQ mindfulness and depressive symptoms (Barnes & Lynn, 2010; Barnhofer, Duggan, & Griffith, 2011; Bergin & Pakenham, 2016; Jimenez, Niles, & Park, 2010; Raphiphatthana, Jose, & Kielpikowski, 2016; Soysa & Wilcomb, 2015; Woodruff et al., 2014) and anxiety symptoms (Bergin & Pakenham, 2016; Soysa & Wilcomb, 2015).

The majority of research has decomposed the FFMQ into its individual facets in order to gain a more fine grained understanding of mindfulness' relation to depressive and anxious symptoms. Baer et al. (2006) found that all FFMQ facets, except for observing, were negatively related with depression and anxiety symptoms. Alternatively, observing has consistently shown positive relations to depression and anxiety. Cross-sectional studies suggest that nonjudgmental acceptance, nonreactivity, and acting with awareness are the strongest predictors of lower depressive (Baer et al., 2006; Bohlmeijer, ten Klooster, Fledderus, Veehof, & Baer, 2011; Desrosiers, Klemanski, & Nolen-Hoeksema, 2013; Medvedev, Norden, Krägeloh, & Siegert, 2018; Petrocchi & Ottaviani, 2016; Raphiphatthana et al., 2016) and anxious symptoms (Desrosiers et al., 2013; Medvedev et al., 2018; Raphiphatthana et al., 2016).

Compared to an abundance of cross-sectional designs, only three studies to our knowledge have assessed the relationship of individual FFMQ facets and symptoms of anxiety and depression over time (Barnes & Lynn, 2010; Petrocchi & Ottaviani, 2016; Raphiphatthana et al., 2016). In a study of non-clinical adults, Petrocchi and Ottaviani (2016) found that when controlling for baseline depression, nonjudgmental acceptance was the only significant predictor of lower depressive symptoms two years later. In a study of 284 undergraduate students, Raphiphatthana et al. (2016) found that acting with awareness and nonjudgmental acceptance

predicted decreases in anhedonic depression and anxious arousal over the span of four-weeks, respectively. Lastly, in a study of college students, Barnes and Lynn (2010) did not find that any of the mindfulness skills predicted changes in depressive symptoms over time. The longitudinal relationships of FFMQ facets and symptoms of depression and anxiety are not well understood as only a handful of studies have examined this relationship with each study reporting varying findings. With little consistent support for mindfulness facets as longitudinal predictors of depressive and anxious symptoms, studies of moderators might help clarify for which individuals these components are most (mal)adaptive.

Self-Compassion Predicting Depressive and Anxiety Symptoms

Derived from the writings of Buddhist teachings, Neff (2003) operationalized self-compassion as being comprised of six facets (e.g., self-kindness, self-judgment, common humanity, isolation, mindfulness, over-identification). Each positive self-compassion facet has a matching negative facet, which combines to create three basic elements of self-compassion. The self-kindness vs. self-judgment element of self-compassion refers to sending warmth and understanding during times of failure rather than criticizing our inadequacies. The common humanity vs. isolation element of self-compassion refers to recognizing that suffering and failure is a part of being human rather than something that happens to "me" alone. The mindfulness vs. over-identification element includes taking a balanced approach to our negative emotions rather than over-identifying and getting swept away by them. The positive and negative (reversed scored) facets combine to form a domain self-compassion score.

Recently, Neff's (2003) six-factor structure has received criticism, with several researchers having reported alternative factor structures with better fit. While several studies have validated the six-factor structure of the SCS (e.g., Arimitsu 2014; Azizi et al. 2013;

Castilho et al. 2015; Chen et al. 2011), others have supported a two-factor model (Lopez et al., 2015; Muris, van den Broek, Otgaar, Oudenhoven, & Lennartz, 2018). When validating the Dutch translation of the SCS, Lopez et al. (2015) found that the three positive facets (i.e., self-kindness, common humanity, mindfulness) loaded onto a single factor called self-compassion. Alternatively, the three negative facets (i.e., self-judgment, isolation, over-identification) were found to load onto a separate single factor, commonly known as self-coldness. Lending support to the bi-factor model, studies have shown that self-compassion and self-coldness are each differentially related to various psychological outcomes. For instance, compared to self-compassion, self-coldness has stronger associations with rumination and psychopathology (Brenner, Heath, Vogel, & Credé, 2017; Lopez et al., 2015; Muris et al., 2018). Most recently, Neff, Whittaker, and Karl (2017) and Cleare, Gumley, Cleare, and O'Connor (2018) have provided evidence supporting a bi-factor model of self-compassion, whereby the domain self-compassion score and individual subscales each contribute significant utility in predicting outcomes.

Empirical studies have suggested that mindfulness and self-compassion are related, but distinct, constructs. Correlations between domain mindfulness and domain self-compassion have ranged from .28 (Birnie et al., 2010) using the MAAS to as high as .69 (Hollis-Walker & Colosimo, 2011) using the FFMQ. Baer, Lykins, and Peters (2012) showed that FFMQ and SCS dimension correlations ranged from negligible to moderate with the majority of significant correlations being considered moderate.

A plethora of research has supported a strong negative relationship between SCS self-compassion and symptoms of depression and anxiety (Korner et al., 2015; López, Sanderman, & Schroevers, 2018; MacBeth & Gumley, 2012; Muris, Meesters, Pierik, & de Kock, 2016; Neff,

2003; Werner et al., 2012). Across 14 studies, Macbeth & Gumley (2012) showed that the mean effect size of self-compassion on depressive and anxiety symptoms was -.52 and -.51, respectively. When examining individual self-compassion facets concurrently, a multitude of studies have consistently demonstrated that self-compassionate behaviors (i.e., self-kindness, common humanity, mindfulness) and behaviors of self-coldness (i.e., self-judgment, isolation, over-identification) are negatively and positively linked to depressive and anxious symptoms, respectively (Brenner et al., 2017; Korner et al., 2015; Mills, Gilbert, Bellew, McEwan, & Gale, 2007; Neff, Kirkpatrick, & Rude, 2007; Ying, 2009). More specifically, cross-sectional literature suggests that lower self-kindness, self-judgment, and isolation are the most consistent predictors of depression and anxiety symptom severity (Korner et al., 2015; Van Dam, Sheppard, Forsyth, & Earleywine, 2011; Woodruff et al., 2014).

Studies have also demonstrated that self-compassion is a longitudinal predictor of depression (López et al., 2018; Raes, 2011; Terry, Leary, & Mehta, 2013; Zeller, Yuval, Nitzan-Assayag, & Bernstein, 2015). In a study of 734 Dutch community adults, López et al. (2018) demonstrated that self-coldness was a strong predictor of depressive symptoms both concurrently and longitudinally. Self-coldness behaviors positively predicted depressive symptoms at baseline and one year later, whereas self-compassionate behaviors negatively predicted depressive symptoms at Time 1 only. Furthermore, in a study of 64 Israeli adolescents who were at-risk for posttraumatic stress, Zeller et al. (2015) showed that levels of self-compassion at baseline and three months significantly predicted lower levels of depressive symptoms at three months and six months, respectively. Lastly, in a sample of 347 psychology students, Raes (2011) showed that self-compassion significantly predicted decreases in depression five months later. Surprisingly, only one study to our knowledge has examined how self-compassion facets predict depressive

symptoms over time as López et al. (2018) showed that only Time 1 isolation predicted depressive symptoms one year later.

Given the limitations of previous studies, more longitudinal research is needed to examine mindfulness and self-compassion as predictors of depressive and anxious symptoms over time, as well as identify individuals who might benefit most from these strategies.

Defining and Conceptualizing Perfectionism

Traditionally, perfectionism was conceptualized as a maladaptive one-dimensional construct which was defined as the setting of unrealistic standards, compulsively striving to achieve idealistic standards and defining one's self-worth based on productivity and achievement (Barrow & Moore, 2011; Burns, 1980). However, over the past three decades, perfectionism has become widely viewed as a multidimensional construct with multifarious conceptualizations and definitions. Three multidimensional approaches that have been the most influential in perfectionism research include the Frost, Marten, Lahart and Rosenblate (1990) Multidimensional Perfectionism Scale (FMPS), the Hewitt and Flett (1991) Multidimensional Perfectionism Scale (HMPS), and the Revised Almost Perfect Scale (APS-R; Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Despite varying definitions across measures, each conceptualization has both adaptive and maladaptive components. Frost and colleagues (1990) view perfectionism as a blend of different components such as personal standards, concern over mistakes, doubts about actions, parental expectations, parental criticism, and organization. Theory posits that the setting of and striving for high personal standards is not inherently maladaptive, whereas concerns over mistakes is significantly more harmful (Frost et al., 1990). Hewitt and Flett's (1991) conceptualization of perfectionism features both interpersonal (e.g., other-oriented perfectionism, socially prescribed perfectionism) and intrapersonal (i.e., self-

oriented perfectionism) dimensions. Theory and research suggest that socially prescribed perfectionism is more consistently related to psychological problems (Hewitt & Flett, 1991). Finally, Slaney and colleagues (2001) conceptualized high standards and order as adaptive components of perfectionism, whereas discrepancy (i.e. one's perceived inability to meet the standards set for oneself) is often most strongly related to maladaptive outcomes.

Research over the past two decades has consistently identified two higher-order dimensions of perfectionism that integrate the aforementioned conceptualizations of perfectionism (e.g., Cox, Enns, & Clara, 2002; Dunkley, Blankstein, Zuroff, Lecce, & Hui, 2006). One higher order factor is comprised of relatively more adaptive components of perfectionism, whereas the other cuts across the problematic dimensions of perfectionism (Dunkley, Zuroff, & Blankstein, 2006; Stoeber & Otto, 2006). These two high-order dimensions of perfectionism have been referred to as *personal standards (PS) perfectionism and self-critical (SC) perfectionism*, respectively (Dunkley, Zuroff, & Blankstein, 2003). PS perfectionism is characterized as the setting of and striving for high standards and goals for oneself. This dimension includes the personal standards scale of the FMPS, the self-oriented perfectionism scale of the HMPS, and the high standards scale of the APS-R. Conversely, the SC perfectionism dimension involves constant and harsh self-scrutiny and chronic worry about others' criticism and approval (Dunkley, Blankstein, & Berg, 2012; Dunkley, Mandel, & Ma, 2014; Dunkley et al., 2003). Measures of SC perfectionism include the self-criticism scale of the Depressive Experiences Questionnaire (DEQ; S. J. Blatt, D'Afflitti, & Quinlan, 1976), the socially prescribed perfectionism scale of the HMPS, the concern over mistakes scale of the FMPS, and the discrepancy scale of the APS-R.

Perfectionism and Depressive and Anxious Symptoms

Research has consistently demonstrated that both high-order dimensions of perfectionism differ significantly when examining their associations with psychological maladjustment (Dunkley, Mandel, et al., 2014; Dunkley, Zuroff, et al., 2006; Egan et al., 2011; Hewitt & Flett, 2002). It is important to note that PS and SC perfectionism are conceptualized as dimensions rather than specific categories of individuals (Zuroff, Mongrain, & Santor, 2004). Research has consistently showed that elevated levels of SC perfectionism are strongly linked to both depressive (e.g., Antony, Purdon, Huta, & Richard, 1998; Dunkley & Blankstein, 2000; Enns & Cox, 1999; Mandel et al., 2015; Powers, Zuroff, & Topciu, 2004) and anxious symptoms (Antony et al., 1998; Mandel et al., 2015; Saboonchi, Lundh, & Ost, 1999). In contrast to SC perfectionism, studies have reliably demonstrated weak to negligible relations between PS perfectionism and depressive and anxious symptoms (Dunkley et al., 2003; Enns & Cox, 1999; Mandel et al., 2015).

Several studies have also supported SC perfectionism as a longitudinal predictor for depressive symptoms over the span of several years (e.g., Dunkley, Sanislow, Grilo, & McGlashan, 2006; Dunkley, Sanislow, Grilo, & McGlashan, 2009; Mandel et al., 2015; Smith et al., 2016). In a meta-analysis of 10 longitudinal studies, all measures of SC perfectionism predicted changes in depressive symptoms. Compared to its link with depressive symptoms, the longitudinal relationship between SC perfectionism and anxiety symptoms is less clear. Smith, Vidovic, Sherry, Stewart, and Saklofske (2018) showed in a similar meta-analysis, only concern over mistakes predicted increases in anxiety symptoms over time when controlling for baseline anxiety.

Perfectionism, Stress-Generation, and Stress-Reactivity

Many researchers and theorists have explored dispositional and situational influences on stress and appraisals to explain the maladaptive nature of SC perfectionism. Theory and research suggest that individuals higher in SC perfectionism self-generate daily stress by misinterpreting mundane events as a major threats to their competencies, which contribute to the maintenance of psychological distress symptoms (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000). A growing numbers of studies have supported mediational models with daily stress (Chang, 2000; Chang, Watkins, & Banks, 2004; Shahar & Priel, 2003) explaining the association between SC measures and lower well-being (Dunkley et al., 2000; Dunkley et al., 2003). Additionally, longitudinal studies of university students (Dunkley et al., 2003), community adults (Dunkley, Ma, Lee, Preacher, & Zuroff, 2014), and depressed patients (Dunkley et al., 2017) have used daily diary methodologies to obtain appraisals, coping, and affect for each individual in their natural everyday environments. Structural equation modeling (SEM) results have shown that SC perfectionism maintains lower well-being (e.g., negative affect, lower positive affect) over time via stress generation.

Perfectionistic individuals are also vulnerable to experiencing heightened stress reactivity to bothersome events. The stress reactivity of perfectionistic individuals was examined across both the short and long-term (Dunkley, Mandel et al., 2014) where community adults completed daily dairies for 14 consecutive days at 6 months and then again at a 3-year follow up. Individuals higher on SC or PS perfectionism, compared to those lower on the two dimensions, exhibited greater increases in daily negative affect and sadness and greater decreases in positive affect when experiencing more event stress than usual at Month 6 and Year 3. A study by

Mandel et al. (2018) found that persistent stress-sadness reactivity mediated the relationship between SC perfectionism and general depressive symptoms and anhedonic depression over 4 years. It is suggested that SC perfectionists interpret intensified emotional reactions to stress as representing a loss of control, which fosters helplessness and avoidant coping tendencies which further exacerbate depressive symptoms (Beck, 1979; Dunkley et al., 2003; Flett, Hewitt, Oliver, & Macdonald, 2002; Mandel et al., 2018). Although stress and stress reactivity put SC perfectionists in a state of negative mood, research suggests that SC perfectionists may remain in their affective states for extended periods of time due to their tendency to engage in emotion dysregulation (Malivoire, Kuo, & Antony, 2019).

Perfectionism and Emotion (Dys)regulation

Emotion regulation strategies are trait-like transdiagnostic factors where certain strategies are theorised to be more adaptive than others (e.g., Aldao, Nolen-Hoeksema, & Schweizer, 2010). Theory and research suggest that compared to PS perfectionists, SC perfectionists are more likely to manage their stress by engaging in maladaptive emotion regulation strategies and lower levels of adaptive emotional responses (Bergman, Nyland, & Burns, 2007; O'Connor, O'Connor, & Marshall, 2007; Richardson, Rice, & Devine, 2014). Formulated from components of emotion dysregulation suggested by Gross and Jazaieri (2014), Malivoire et al., (2019) developed a conceptual model of emotion dysregulation in SC perfectionism. This model suggests that threatened perfectionistic standards (e.g., self-criticism, perceived failure) leads to negative affect through stress reactivity. Poor emotional awareness and heightened negative affect combine to motivate SC perfectionists to alleviate distress in the short-term while also minimizing an SC perfectionist's repertoire and accessibility to helpful strategies leading to the use of maladaptive emotion regulation strategies. Malivoire at al., (2019) suggests that

maladaptive emotion regulation may occur implicitly (i.e., automatically with minimal awareness) or explicitly (i.e., effortful attempts to change one's emotional experience) and are used in relation with one's emotion regulation goals (i.e., suppressing emotions following a test to avoid appearing incompetent to others). Lastly, SC perfectionists may also engage in maladaptive emotion regulation strategies due to a lack of motivation to improve their negative states, as SC perfectionists may believe that they deserve to suffer following failure and that feeling bad will increase work productivity (Malivoire et al., 2019).

Research suggests that rumination, experiential avoidance and expressive suppression are three maladaptive emotion-regulation tendencies that have been shown to be elevated within SC perfectionistic individuals (Moroz & Dunkley, 2015; Moroz & Dunkley, 2019; Richardson et al., 2014; Santanello & Gardner, 2007). SC perfectionists tend to respond to negative mood with excessive rumination about mistakes, perceived discrepancies between actual and ideal standards and a failure to maintain a sense of control (Blatt & Shichman, 1983; Flett, Hewitt, Blankstein, & Gray, 1998; Frost et al., 1997). A growing number of studies have recently reported mediational models where maladaptive rumination explained the link between SC perfectionism and negative outcomes (Di Schiena, Luminet, Philippot, & Douilliez, 2012; O'Connor et al., 2007; Short & Mazmanian, 2013). Secondly, SC perfectionists possess a desire to escape from distressing emotional states, thoughts, feelings, and other private events that stem from self-doubt, lowered self-respect, and a decreased satisfaction with one's abilities (Heatherton & Baumeister, 1991; Moroz & Dunkley, 2019; Santanello & Gardner, 2007). Moroz et al., (2019) demonstrated that experiential avoidance mediated the relationship between SC perfectionism and symptoms of depression and anxiety over 2 years, above and beyond the effects of neuroticism. Lastly, due to an interpersonal schema in which others are critical and unaccepting, SC perfectionists tend to

conceal emotional states from others through expressive suppression in order to avoid fearsome self-embarrassment and external criticism (see Bergman et al., 2007; e.g., Hewitt, Flett, Mikail, Kealy, & Zhang, 2017; Richardson et al., 2014). Numerous studies have shown that individuals who suppress the expression of their emotions are likely to experience increases in depressive (Joormann & Gotlib, 2010; Kahn & Garrison, 2009) and anxiety symptoms (D'Avanzato, Joormann, Siemer, & Gotlib, 2013; Kahn & Garrison, 2009).

In order to help SC perfectionists better manage distress from perfectionistic thoughts that eventually lead to increased depressive and anxious symptoms, strategies to reduce maladaptive emotion regulation and increase more adaptive emotional responses are needed. Promising evidence suggests that mindfulness and self-compassion may be effective buffering strategies for SC perfectionists by targeting elevated levels of rumination, experiential avoidance, and expressive suppression.

The Effectiveness of Mindfulness and Self-Compassion for SC perfectionists

Mindfulness and SC perfectionism

A number of studies have found that measures of SC perfectionism were negatively related to dispositional mindfulness (Argus & Thompson, 2008; Hinterman, Burns, Hopwood, & Rogers, 2012; James & Rimes, 2018; Short & Mazmanian, 2013; Wimberley, Mintz, & Suh, 2016) and all FFMQ mindfulness facets, with the exception of observe (Short & Mazmanian, 2013). Mindfulness may serve as an adaptive strategy for perfectionistic individuals to lower symptoms of depression and anxiety through a process known as decentering. Considered to be the driver behind mindfulness' beneficial effects, decentering is referred to as a shift in cognitive thinking in which individuals relate to negative thoughts as mental events in a wider context rather than a reflection of personal identity (Teasdale, 1999). Instead of looking to control the

content of inflexible self-critical thoughts, mindfulness may guide SC perfectionists to alter their existing relationship with these thoughts through observing and nonjudgmentally accepting mental experiences as passing events which are often founded on little truth (Hofmann & Asmundson, 2008; Moroz & Dunkley, 2019). The mindfulness literature suggests that nonjudgmental acceptance (Gecht et al., 2014; Iani, Lauriola, Chiesa, & Cafaro, 2019), nonreactivity (Barnes & Lynn, 2010; Iani et al., 2019), and to a lesser extent, describing (Gecht et al., 2014) play an important role in the decentering processes of mindfulness.

Research suggests that mindfulness buffers against the negative influence of perceived stress on depressive and anxious symptoms (Adams et al., 2015; Bergin & Pakenham, 2016; Branstrom, Duncan, & Moskowitz, 2011; Cole et al., 2015) and against stress reactivity to aversive situations (Brown, Weinstein, & Creswell, 2012; Bullis, Bøe, Asnaani, & Hofmann, 2014). Interestingly, Prakash, Hussain, and Schirda (2015) showed that changes in emotion regulation are an integral part of mindfulness' beneficial effects as emotion regulation fully mediated the association between mindfulness and perceived stress. Moreover, studies have demonstrated that higher dispositional mindfulness is related to lower rumination (Heeren & Philippot, 2011), experiential avoidance (Baer et al., 2006; Desrosiers et al., 2013) and expressive suppression (Seligowski & Orcutt, 2015). Instead of implicitly or explicitly turning to maladaptive emotion regulation to manage distressing thoughts, mindfulness may help SC perfectionists to acknowledge, accept and remain nonreactive to stressful mental experiences while increasing access to more adaptive emotion regulation and coping responses (Baer et al., 2006; Hayes & Feldman, 2006)

To our knowledge, only one study has investigated mindfulness as an explanatory mechanism in the link between SC perfectionism and depressive and anxious symptoms. In a

study of 141 clinically depressed individuals, Argus and Thompson (2008) reported that MAAS mindfulness mediated the relationship between maladaptive perfectionism and depression severity. However, no study has examined how SC perfectionism might moderate the relation between mindfulness and depressive and anxious symptoms concurrently or over time. More specifically, little is known about how engaging in mindfulness influences symptoms of depression and anxiety for high SC perfectionists compared to those low on this dimension.

Self-Compassion and SC perfectionism

While showing no relation with PS perfectionism, several studies have demonstrated that self-compassion is negatively related to SC perfectionism (Mehr & Adams, 2016; Neff, 2003; Wong & Mak, 2013). Self-compassion is another emotion regulation strategy that may help individuals with higher SC perfectionism to reduce depressive and anxious symptoms. First, self-compassion directly targets dysfunctional thoughts of failure and personal inadequacy that are core to SC perfectionism. Gilbert and Procter (2006) suggest that there are two pathogenic qualities of self-criticism: the degree of self-directed hostility and the inability to generate feelings of self-warmth. Theoretically, self-compassion guides SC perfectionists to treat themselves kindly when faced with failures by reducing levels of self-criticism while enhancing self-soothing cognitions (Gilbert & Procter, 2006; Wong & Mak, 2013).

Aside from targeting core perfectionistic beliefs, research suggests that self-compassion may also effectively reduce stress levels among SC perfectionists. Literature finds that self-compassion is linked to lower levels of perceived stress (Sirois, 2014). Krieger, Hermann, Zimmermann, and grosse Holtforth (2015) showed that compared to those low on self-compassion, the link between stress and negative affect was weaker for individuals high in self-

compassion. A mediational study by Finlay-Jones, Rees, and Kane (2015) revealed that the association between self-compassion and stress was fully explained by emotion regulation.

It is theorized that self-compassion stabilizes mood within an acceptable range by transforming negative self-affect (i.e., feeling bad about one's inadequacies or failures) into positive self-affect (i.e., feeling kindness and understanding towards oneself). A more stable mood to threatening thoughts would decrease the likelihood for one to explicitly or implicitly turn to maladaptive emotion regulation, while promoting increased access to adaptive coping responses (Berking & Whitley, 2014; Finlay-Jones et al., 2015). Several studies have shown that rumination and experiential avoidance mediated the relationship between self-compassion and symptoms of depression and anxiety (Krieger, Altenstein, Baettig, Doerig, & Holtforth, 2013; Raes, 2010), while Jazaieri et al. (2013) showed that those receiving Compassion Cultivation Training (CCT) saw decreases in expressive suppression.

To my knowledge, one mediation and two moderation studies have examined the association between self-compassion, SC perfectionism and depressive symptoms. In a cross-sectional study of 358 university students, Mehr and Adams (2016) demonstrated that lower self-compassion partially mediated the relationship between maladaptive perfectionism and depressive symptoms. Ferrari, Yap, Scott, Einstein, and Ciarrochi (2018) found that self-compassion moderated the link between maladaptive perfectionism and depression in both community adolescents and adults. SC perfectionists who did not engage in self-compassion experienced elevated depressive symptom levels compared to those who engaged in average or above levels of self-compassion. Lastly, in a cross-sectional study of 345 Chinese adults living in Hong Kong, Wong and Mak (2013) found that each of the positive self-compassion components (i.e., self-kindness, common humanity, mindfulness) moderated the relationship between self-

criticism and depressive symptoms, respectively. More specifically, self-critics who engaged in self-kindness, common humanity, and mindfulness had weaker associations with depressive symptoms compared to those who did not engage in facets of self-compassion, respectively. The authors did not analyze how associations between self-criticism and depressive symptoms vary as a function of engaging in self-coldness components (i.e., self-judgment, isolation, over-identification).

Important gaps in the literature exist. For one, all mediation and moderation studies investigating links between self-compassion and SC perfectionism have predicted depressive symptoms only (Ferrari et al., 2018; Mehr & Adams, 2016; Wong & Mak, 2013). Very little is known about how self-compassion influences changes in anxiety levels among perfectionistic individuals. Second, Wong and Mak (2013) investigated how self-criticism and individual positive facets of self-compassion (i.e., self-kindness, common humanity, mindfulness) interact to predict depressive symptoms. On the other hand, little is known about how self-coldness components (i.e., self-judgment, isolation, over-identification) individually moderate the relationship between SC perfectionism and depressive and anxious symptoms, concurrently or over time. Finally and most important, no studies have investigated how SC perfectionistic individuals respond to self-compassion to predict longitudinal changes in depressive and anxious symptoms.

The Present Study

Given the debilitating nature and high global prevalence of depressive and anxious disorders (e.g., Kessler et al., 2009), the present study aimed to gain a better understanding of how mindfulness, self-compassion and their respective facets influence long-term changes in depressive and anxiety symptoms for SC perfectionistic individuals. The first main objective of

the present study was to understand how higher-order perfectionism dimensions moderate the relationship between mindfulness and symptoms of depression and anxiety over two years. I examined how the mindfulness domain and facets (i.e., observe, describe, act with awareness, nonjudgmental acceptance, nonreactivity) interact with perfectionism to predict changes in depressive and anxiety symptoms two years later. The second main objective of the current study was to assess how PS and SC perfectionism dimensions interact with self-compassion to predict changes in depressive and anxiety symptoms over two years. I assessed how perfectionism and the self-compassion domain and facets (i.e., self-kindness, self-judgment, common humanity, isolation, mindfulness, over-identification) interact to predict changes in depressive and anxiety symptoms over two years. In analyzing the interaction of SC perfectionism with specific mindfulness and self-compassion facets, the current study sought to gain a more detailed understanding of the potential benefits of mindfulness and self-compassion for SC perfectionists that contribute to long-term changes in depressive and anxiety symptoms.

The current study used the tripartite model of depression and anxiety in order to provide a more fine-grained understanding of how mindfulness and self-compassion influence various facets of depressive and anxious symptoms for those high on SC perfectionism (Clark & Watson, 1991). The tripartite model includes both general symptoms of depression and anxiety (e.g., general distress symptoms; GDX), and specific symptoms of depression (anhedonic depression; AD) and anxiety (Anxious Arousal; AA). Compared to PS, SC perfectionists have elevated levels of stress, stress reactivity, and a tendency to engage in maladaptive emotion regulation strategies (Aldao et al., 2010; Dunkley et al., 2000; Dunkley, Mandel, et al., 2014). Accordingly, I hypothesize that Time 1 SC perfectionism, but not PS perfectionism, will interact with Time 2 mindfulness (i.e., mindfulness domain, observing, describing, acting with awareness,

nonjudgmental acceptance, nonreactivity) to predict changes in Time 3 general distress, anxious arousal, and anhedonic depression over two years. I also expect that Time 1 SC perfectionism will interact with Time 2 self-compassion (i.e., domain self-compassion, self-kindness, common humanity, mindfulness) and Time 2 self-coldness (i.e., self-judgement, isolation, over-identification) facets to predict decreases and increases in Time 3 general distress, anxious arousal, and anhedonic depression, respectively.

Methods

Participants

The current study recruited community adults holding paid employment through English and French newspaper advertisements and posted bulletins online and throughout Montreal. Once recruited, participants were asked to complete a variety of retrospective measures on three separate occasions. Participants participated voluntarily after a human investigation committee at the Jewish General Hospital approved the study and informed consent was obtained. Of the initial 152 participants who completed Time 1, 124 (82%) completed measures at each of the three time points. Participants who failed to complete either Time 2 or Time 3 measures were excluded from analyses.

The current study's sample of 124 participants ranged from 19 to 65 years old with a mean age of 36.40 years (SD = 14.26). The majority of the sample completed measures in English (67%; 52 female, 31 male), whereas 33% (30 female, 11 male) completed measures in French. Most participants were of European (60.5%, n = 75) or Asian descent (20.2%; n = 25), whereas 5.6% identified themselves as Latin American (n = 7), 4% as more than one ethnicity (n = 5), 3.2% as African (n = 4), 2.4% as South Asian (n = 3), 1.6% as Aboriginal (n = 2), 1.6% as unspecified (n = 2), and 0.8% as Middle Eastern (n = 1). Over half of the sample was university

educated (61%, n = 76), while 27% (n = 34) and 12% (n = 14) were educated at the college and high school levels, respectively.

Procedure

Between October 2015 and June 2016, participants partook in a 2-hour lab session at the Institute of Community and Family Psychiatry (ICFP) of the Jewish General Hospital. At this initial session, participants were asked to provide their demographic information before completing baseline measures of perfectionism and depressive and anxiety symptoms. One year later, participants completed Time 2 measures of self-compassion, mindfulness, and depressive and anxiety symptoms in a one-hour lab session. Lastly, two years after baseline, participants completed Time 3 depressive and anxiety symptoms measures in a one-hour lab session. All questionnaires were completed using an online link provided by Qualtrics.com. Participants were compensated $25 for completing each individual time point and received an additional $50 for completing all three waves of the study. Altogether, participants could receive up to a total of $125.

Measures

Perfectionism. PS and SC perfectionism latent factors were derived from selected scales of the 66-item Depressive Experiences Questionnaires (DEQ; S. J. Blatt et al., 1976), the 35-item Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990), the 45-item Hewitt & Flett Multidimensional Perfectionism Scale (HMPS; Hewitt & Flett, 1991), and the 23-item Almost Perfect Scale-Revised (APS-R; Slaney et al., 2001) The PS perfectionism composite measure is comprised of the FMPS personal standards (7 items; e.g., “It is important to me that I be thoroughly competent in everything that I do”), the HMPS self-oriented perfectionism (15 items; e.g., “I strive to be as perfect as I can be”), and the APS-R high standards (7 items; e.g., “I

have high expectations for myself") subscales. The SC perfectionism composite measure includes the DEQ self-criticism (e.g., "There is a considerable difference between how I am now and how I would like to be"), FMPS concern over mistakes (9 items; e.g., "People will think less of me if I make a mistake"), HMPS socially prescribed perfectionism (15 items; e.g., "People expect nothing less than perfection from me"), and APS-R discrepancy (12 items; e.g., "My performance rarely measures up to my standards"). The DEQ, HMPS, and APS-R indicators were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), whereas the FMPS subscales were rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Extensive research provides support for the reliability and validity of the DEQ, FMPS, HMPS and APS-R measures (Frost et al., 1990; Hewitt & Flett, 1991; Slaney et al., 2001; Zuroff et al., 2004). The current study reports α coefficients of .84, .90 and .87 for the FMPS personal standard, HMPS self-oriented and APS-R high standard components, respectively. On the other hand, coefficient alphas for the HMPS socially prescribed perfectionism, FMPS concern over mistakes, and APS-R discrepancy subscales were .87, .90 and .94, respectively. No α coefficient was calculated for DEQ self-criticism because this component was scored using Blatt et al.'s (1976) factor weights scoring procedure rather than conventionally summing a series of items.

The composite measures of PS perfectionism and SC perfectionism were used instead of the individual indicators to allow for a more comprehensive assessment of the different aspects of the broader perfectionism dimensions. High-order composites were calculated by first standardizing the DEQ, FMPS, HMPS and APS-R components and then averaging together the saved z-scores to create PS perfectionism and SC perfectionism composite variables. Previous studies have demonstrated support for the reliability and validity of these higher order composite

variables as their relations with other personality and psychological (mal)adjustment measures have been reported in the expected direction (see Dunkley et al., 2012; Dunkley et al., 2003; Stoeber & Otto, 2006). Alpha coefficients in the current study for the PS perfectionism and SC perfectionism composite scores were .93 and .94, respectively.

Mindfulness. Mindfulness was measured using the Five-Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006). The FFMQ is a 39-item self-report questionnaire that measures the extent to which one generally uses mindfulness in daily life. An FFMQ domain mindfulness score can be derived by summing the scores of its five distinct facets: observing, describing, acting with awareness, nonjudgmental acceptance, and nonreactivity. Observing measures the extent to which one notices internal and external experiences (8 items; e.g., "When I take a shower or bath, I stay alert to the sensations of water on my body"). The describing component assesses the degree to which an individual labels their own inner experiences (8 items; e.g., "I can easily put my beliefs, opinions, and expectations into words"). The acting with awareness subscale examines the extent to which an individual attends to their present activities (8 items; e.g., "When I do things, my mind wanders off and I'm easily distracted" [reverse scored]). The nonjudgmental acceptance component assesses the level to which an individual takes a non-evaluative stance towards internal experiences (8 items; e.g., "I criticize myself for having irrational or inappropriate emotions" [reverse-scored]). Lastly, the nonreactivity subscale measures one's ability to allow thoughts and feelings to come and go without becoming overwhelmed by them (7 items; i.e., "I perceive my feelings and emotions without having to react to them). Individuals were asked to respond to statements ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*). Previous research investigating the psychometric properties of the FFMQ has demonstrated its strong reliability and validity (Baer et al., 2008).

The present study reports a .91 α coefficient for the FFMQ domain mindfulness score while alpha coefficients for the individual facets range from .81 to .92 (see Table 1).

Self-Compassion. Self-compassion was measured using the Self-Compassion Scale Short-Form (SCS-SF; Raes, Pommier, Neff, & Van Gucht, 2011). The SCS-SF is a 12-item self-report questionnaire that represents the balance between increased compassionate and decreased self-coldness responding to personal struggle and failure (Neff, Tóth-Király, & Colosimo, 2018). The SCS-SF consists of three self-compassionate and three self-coldness facets of self-compassion. The self-compassionate subscales include self-kindness (2 items; e.g., "I try to be understanding and patient towards aspects of my personality I don't like"), common humanity (2 items; e.g., "I try to see my failings as part of the human condition"), and mindfulness (2 items; e.g., "When something painful happens I try to take a balanced view of the situation"). Conversely, the self-coldness subscales include self-judgment (2 items; e.g., "I'm disapproving and judgmental about my own flaws and inadequacies"), isolation (2 items; e.g., "When I am feeling down, I tend to feel like most other people are probably happier than I am"), and over-identification (2 items; e.g., "When I fail at something important to me I become consumed by feelings of inadequacy"). Individuals were asked to respond to statements ranging from 1 (*Almost never*) to 5 (*Almost always*). Each self-compassionate facet has an opposing self-coldness facet that combine to create three basic elements of self-compassion. The three elements of self-compassion are self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus over-identification. A grand mean including the three self-compassion facets and the three reverse coded self-coldness facets was calculated in order to indicate a domain self-compassion score (Neff et al., 2018). Raes et al. (2011) demonstrated little loss in internal consistency when comparing domain scores of the SCS and SCS-FS. Moreover,

the SCS-SF has also displayed good incidences of convergent and discriminant validity. While Raes et al., (2011) reported a coefficient alpha of .87 for the SCS-SF total score, the present study reports an α coefficient of .82. Raes et al., (2011) reported that the internal consistency of the SCS-SF facets α coefficients ranged from .55- .81. In the current study, coefficient alphas of individual SCS-FS facets ranged from .61-.79 (see Table 1).

Depressive and Anxious Symptoms. General and specific depressive and anxious symptoms were measured using the Mood and Anxious Symptom Questionnaire (MASQ; Watson & Clark, 1991). Consisting of 62-items, this self-report measure includes four subscales. The general distress depressive symptoms (GDD; 12 items; e.g. "felt worthless") and the general distress anxious symptoms (GDA; 11 items; e.g., "felt afraid") subscales encompass the general aspects of depressive and anxious symptoms (i.e., the shared measures of general distress that relate to both depressed and anxious mood). Across time points, the current study reports GDD and GDA correlations ranging from .72-.79; therefore, these two subscales were combined to reflect a measure of general distress depressive and anxious symptoms (GDX). On the other hand, the anhedonic depression (AD; 22 items, e.g., "Felt withdrawn from other people") and anxious arousal (AA; 17 items; e.g., "Startled easily") subscales capture symptoms that are specific to depression or anxiety, respectively. Participants completing the MASQ were asked to respond to statements ranging from 1 (*not at all)* to 5 (*extremely*). Acceptable internal consistency and good convergent and discriminant validity has been reported for the MASQ scales (Reidy & Keogh, 1997; Watson et al., 1995). The current study reports a .92 coefficient alpha for GDX at each wave while ranging from .93-.94 and .92-.94 across time points for AA and AD, respectively.

Given the present study's bilingual sample, available French versions of the perfectionism (e.g., DEQ; Boucher, Cyr, & Fortin, 2006; APS-R; Kyparissis, Pierre, Goldsmith, & Dunkley, 2006; HMPS; Labrecque, Stephenson, Boivin, & Marchand, 1998; FMPS; Rhéaume et al., 1994), depressive and anxiety symptoms (Waintraub, Delalleau, Lavergne, & Bertrand, 1997), mindfulness (Heeren, Douilliez, Peschard, Debrauwere, & Philippot, 2011) and self-compassion (Kotsou & Leys, 2016) measures were administered to French-speaking participants. The internal consistencies and validity of the French perfectionism (Dunkley et al., 2012; Dunkley & Kyparissis, 2008; Dunkley, Mandel, et al., 2014), depressive and anxious symptoms (Waintraub et al., 1997), mindfulness (Heeren et al., 2011), and self-compassion (Kotsou & Leys, 2016) measures have been shown to be comparable to those of the original English versions.

Results

Descriptive Statistics and Zero-Order Correlations

Table 1 reports the means, standards deviations and internal consistencies of the perfectionism, mindfulness, self-compassion, and depressive and anxious symptom measures. *T*-tests comparing the means of English and French speaking participants revealed that there were no significant differences in baseline SC perfectionism, PS perfectionism, and depressive and anxious symptoms scores between groups.

Cohen's (1992) criteria for weak (r = .10), moderate (r = .30), and strong (r = .50) effect sizes were used to classify the strength of the zero-order correlations which can be seen in Table 2. SC perfectionism displayed moderate to strong correlations with Time 1, 2, and 3 depressive and anxious symptoms. SC perfectionism showed moderate to strong inverse relations with Time 2 FFMQ domain mindfulness, acting with awareness, describing, nonreactivity, and

nonjudgmental acceptance, while reporting a nonsignificant correlation with observing. SC perfectionism showed a strong inverse correlation with Time 2 SCS domain self-compassion, a moderate inverse correlation with common humanity, and weak inverse relations with self-kindness and mindfulness. Alternatively, SC perfectionism showed strong positive associations with Time 2 SCS self-judgment, over-identification, and isolation.

As expected, PS perfectionism did not significantly correlate with Time 1, 2, or 3 depressive and anxious symptoms. Moreover, PS perfectionism showed weak or negligible inverse correlations with Time 2 FFMQ domain mindfulness, acting with awareness, nonjudgmental acceptance, describing, and nonreactivity, as well as weak positive relations with observing. PS perfectionism displayed weak inverse correlations with Time 2 SCS domain self-compassion, self-kindness, mindfulness, and common humanity. Alternatively, PS perfectionism showed a weak positive relationship with Time 2 SCS isolation and moderate positive relations with self-judgment and over-identification.

Tests of SC Perfectionism and FFMQ Mindfulness Interactions

Eighteen multiple hierarchical regression analyses were performed to evaluate how SC perfectionism interacts with (a) FFMQ total mindfulness, and (b) each of the five FFMQ facets to predict general distress, anxious arousal, and anhedonic depression at Time 3. All predictor variables were first standardized. Each of the two-way interactions were examined in separate hierarchical regressions with five predictors entered one at a time. Time 1 and Time 2 depressive and anxious symptoms were controlled for by entering them in the first two blocks of analyses. Next, Time 2 FFMQ total mindfulness was entered in the third block to assess its incremental validity over the previous two steps. Time 1 SC perfectionism was then entered in the fourth step to control for its main effect. Lastly, the interaction term of Time 1 SC perfectionism and Time 2

FFMQ total mindfulness was entered in the fifth block to evaluate its unique validity in predicting general distress, anxious arousal, and anhedonic depression, respectively. The procedure to assess moderating hypotheses using an incremental partitioning of variance is recommended by Hewitt, Flett, and Ediger (1996) and Cohen, C. Cohen, G. West, and S. Aiken (2003). Next, using the same five step procedure, hierarchical regression analyses were performed to examine the interaction of Time 1 SC perfectionism and each of the five FFMQ mindfulness facets at Time 2 to predict Time 3 general distress, anxious arousal, and anhedonic depression symptoms.

As shown in Table 2, Time 1 general distress accounted for 36% of the variance *(p* < .001) in Time 3 general distress scores. In the second step, Time 2 general distress uniquely predicted 12% of the variance ($p < .001$) in Time 3 general distress over and above Time 1 general distress. Similarly, Time 1 anxious arousal predicted 43% of the variance in Time 3 anxious arousal scores ($p < .001$). Entered into the second step, Time 2 anxious arousal incrementally predicted 4% of the change in Time 3 anxious arousal ($p < .01$) over and above Time 1 anxious arousal. Lastly, Time 1 anhedonic depression predicted 39% of the variance in Time 3 anhedonic depression scores ($p < .001$). In the second step, Time 2 anhedonic depression incrementally predicted 11% of unique variance ($p <.001$) in Time 3 anhedonic depression over and above Time 1 anhedonic depression. The main effects and interaction effects of Time 1 SC perfectionism and Time 2 FFMQ total mindfulness and individual mindfulness facets in steps three to five failed to incrementally predict anhedonic depression at Time 3, respectively. Therefore, we do not describe the anhedonic depression results further.

SC perfectionism and FFMQ Total Mindfulness. As shown in Table 3, Time 2 FFMQ total mindfulness did not predict significant amounts of unique variance in Time 3 general

distress, but did account for a significant 3% of incremental variance ($p < .05$) in Time 3 anxious arousal scores. Next, when entered in the fourth block, Time 1 SC perfectionism predicted 2% of incremental variance in Time 3 general distress scores, while predicting nonsignificant amounts of additional variance in Time 3 anxious arousal. Subsequently, when entered in the fifth block, Time 1 SC perfectionism interacted with Time 2 total mindfulness to predict a significant 2% of unique variance ($p < .05$) in Time 3 general distress, and a significant 3% of incremental variance in ($p < .05$) in Time 3 anxious arousal scores. In line with recommendations from Cohen et al., (2003), we interpreted significant interactions by calculating the slopes at each level of the independent variables, which was represented as one standard deviation above or below the mean. Figure 1 illustrates that, for individuals with high SC perfectionism, there was a significant decrease in Time 3 general distress, slope = -3.51, $t(118) = -2.29$, $p < .001$, and Time 3 anxious arousal, slope = -1.96, $t(118) = -2.72$, $p < .01$, as Time 2 total mindfulness increased from low to high levels. Time 2 total mindfulness was not significantly related to Time 3 general distress scores ($p = .35$) or Time 3 anxious arousal scores ($p = .92$) for participants with low SC perfectionism.

SC perfectionism and Observing. As displayed in Table 3, Time 2 observing uniquely predicted a significant 2% of the variance in Time 3 general distress scores, while incrementally predicting a nonsignificant amount of variance in Time 3 anxious arousal, over and above Time 1 and Time 2 general distress and anxious arousal, respectively. Next, SC perfectionism significantly predicted 3% of incremental validity in Time 3 general distress, but did not predict Time 3 anxious arousal scores. Subsequently, when entered into the fifth block, Time 1 SC perfectionism interacted with Time 2 observing to predict a significant 3% incremental variance in both Time 3 general distress ($p < .01$) and anxious arousal scores ($p < .01$). Interpreting the

significant SC perfectionism x observing interactions, Figure 1 shows that, for high SC perfectionistic individuals, there was a significant decrease in Time 3 general distress, slope = -5.46, $t(118) = -3.99$, $p < .01$, and Time 3 anxious arousal, slope = -1.80, $t(118) = -2.80$, $p < .01$, as Time 2 observing increased from low to high levels. Time 2 observing was not significantly related to Time 3 general distress ($p = .91$) or Time 3 anxious arousal ($p = .24$) for participants low on SC perfectionism.

SC perfectionism and Describing. As shown in Table 3, Time 2 describing predicted a nonsignificant amount of incremental validity in Time 3 general distress and Time 3 anxious arousal when controlling for Time 1 and 2 general distress and anxious arousal in steps one and two. In the fourth step, Time 1 SC perfectionism predicted a significant 2% of unique variance ($p < .05$) in Time 3 general distress, while failing to incrementally predict Time 3 anxious arousal. Subsequently, when entered in the fifth step, Time 1 SC perfectionism and Time 2 describing significantly interacted to predict 2% of incremental variance ($p <.05$) in Time 3 general distress and 4% of the variance ($p < .001$) in Time 3 anxious arousal. Interpreting the significant SC perfectionism x describing interactions, Figure 1 shows that for high SC perfectionists, there was a significant decrease in Time 3 anxious arousal, slope = -2.26, $t(118) = -3.33$, $p < .001$, as Time 2 describe levels increased from low to high. The relationship between Time 2 describe and Time 3 general distress, slope = -2.29, $t(118) = -1.53$, $p = .13$, was nonsignificant for participants high on SC perfectionism. Alternatively, among low SC perfectionists, there was no significant change in Time 3 general distress, slope = 2.52, $t(118) = 1.64$, $p = .10$, and Time 3 anxious arousal, slope = .81, $t(118) = 1.12$, $p = .27$, as Time 2 describe increased from low to high levels.

SC perfectionism and Acting with Awareness. As presented in Table 3, Time 2 act with awareness did not significantly predict Time 3 general distress while predicting a significant

2% of variance ($p < .05$) in Time 3 anxious arousal. In the fourth step, Time 1 SC perfectionism incrementally predicted 2% of the variance ($p < .05$) in Time 3 general distress but failed to predict Time 3 anxious arousal. Entered in the fifth step, the Time 1 SC perfectionism and Time 2 act with awareness interaction failed to incrementally predict Time 3 general distress and Time 3 anxious arousal beyond the prior steps of analysis.

SC perfectionism and Nonjudgmental Acceptance. Table 3 shows that Time 2 nonjudgmental acceptance uniquely predicted 2% of the variance ($p < .05$) in Time 3 general distress but did not incrementally predict Time 3 anxious arousal. Next, entered in the fourth step, Time 1 SC perfectionism uniquely predicted 3% of the variance ($p < .01$) in Time 3 general distress but did not significantly predict Time 3 anxious arousal. Lastly, when entered in the final step, Time 1 SC perfectionism and Time 2 nonjudgmental acceptance did not interact to uniquely predict Time 3 general distress, but did interact to incrementally predict 2% of the variance ($p < .05$) in Time 3 anxious arousal. Inspecting the significant interactions further, Figure 1 shows that for participants high in SC perfectionism, there was a significant decrease in Time 3 anxious arousal, slope = -1.71, $t(118) = -2.19$, $p < .05$, when nonjudgmental acceptance increased from low to high levels. On the other hand, Time 2 nonjudgmental acceptance was not significantly related to Time 3 anxious arousal for low SC perfectionistic individuals ($p = .74$).

SC perfectionism and Nonreactivity. Table 3 shows that Time 2 nonreactivity significantly predicted 2% of unique variance ($p < .05$) in Time 3 general distress scores, while failing to predict Time 3 anxious arousal. In the fourth step, Time 1 SC perfectionism accounted for 2% of the unique variance ($p < .05$) in Time 3 general distress but did not significantly predict Time 3 anxious arousal. Finally, in the fifth step, Time 1 SC perfectionism and Time 2 nonreactivity interacted to significantly predict 2% unique variance in both Time 3 general

distress ($p < .05$) and Time 3 anxious arousal ($p < .05$). Interpreting the significant SC perfectionism x nonreactivity interactions, Figure 1 shows that for individuals with elevated SC perfectionism, there was a significant decrease in Time 3 general distress, slope = -3.86, $t(118) = -2.97$, $p < .01$, and approaching significance decrease in Time 3 anxious arousal, slope = -1.08, $t(118) = -1.76$, $p < .08$, as nonreactivity increased from low to high. Time 2 nonreactivity was not significantly related to Time 3 general distress, slope = -.25, $t(118) = -.17$, $p = .87$, and Time 3 anxious arousal, slope = .64, $t(118) = .89$, $p = .38$ for low SC perfectionists.

Tests of SC Perfectionism and SCS Self-Compassion Interactions

Twenty-one multiple hierarchical regression analyses were performed to evaluate how SC perfectionism interacted with (c) SCS total self-compassion and, (d) each of the six SCS components to predict changes in general distress, anxious arousal, and anhedonic depression at Time 3. First, an interaction term of Time 1 SC perfectionism and Time 2 SCS total self-compassion was created and tested in three separate multiple hierarchical regression analyses in order to predict changes in Time 3 general distress, anxious arousal, and anhedonic depression symptoms, respectively. Each of the two-way interactions were examined in separate hierarchical regressions with five predictors entered one at a time. Steps 1 and 2 controlled for the effects of Time 1 and Time 2 symptom scores, as in the analyses with the FFMQ described above. In the third step, Time 2 SCS total self-compassion was entered to examine whether it incrementally predicted each Time 3 outcome over and above the previous two steps. Next, Time 1 SC perfectionism was entered in the fourth block to control for its main effect. In the fifth and final block, the interaction term of Time 1 SC perfectionism and Time 2 SCS total self-compassion was entered to examine its unique validity in predicting each of the Time 3 symptom scores. Using the same five-step procedure, hierarchical regression analyses were then conducted

to examine whether Time 1 SC perfectionism and each of the six Time 2 SCS self-compassion facets interacted to predict Time 3 general distress, anxious arousal, and anhedonic depression symptom scores. The main effects and interactions of Time 1 SC perfectionism and Time 2 SCS self-compassion domain and individual facets failed to incrementally predict anhedonic depression at Time 3; therefore, we do not discuss these results further.

SC Perfectionism and SCS Total Self-Compassion. As shown in Table 4, Time 2 SCS domain self-compassion uniquely predicted 5% and 4% of the variance in Time 3 general distress ($p < .001$) and Time 3 anxious arousal ($p < .01$), respectively. When entered in the fourth step, Time 1 SC perfectionism failed to incrementally predict changes in Time 3 general distress and Time 3 anxious arousal. When entered in the fifth step, Time 1 SC perfectionism and Time 2 SCS total self-compassion significantly predicted 3% of incremental variance in both Time 3 general distress ($p < .01$) and Time 3 anxious arousal ($p < .01$). Interpreting the significant SC perfectionism x total self-compassion interactions, Figure 2 reveals that, for participants high on SC perfectionism, there was a significant decrease in Time 3 general distress, slope = -7.19, $t(118) = -3.95$, $p < .001$, and Time 3 anxious arousal, slope = -2.89, $t(118) = -3.62$, $p < .001$, as SCS total self-compassion increased from low to high. Time 2 total self-compassion was not significantly related to Time 3 general distress ($p = .11$) and Time 3 anxious arousal ($p = .39$) for individuals low on SC perfectionism.

SC perfectionism and Self-Kindness. Table 4 shows that Time 2 self-kindness did not incrementally predict a significant amount of variance in Time 3 general distress and Time 3 anxious arousal. Next, in the fourth step, Time 1 SC perfectionism significantly predicted 2% of the incremental variance in Time 3 general distress ($p < .05$), while not uniquely predicting changes in Time 3 anxious arousal scores. In the final step, Time 1 SC perfectionism and Time 2

self-kindness interacted to uniquely predict 2% ($p < .05$) and 5% ($p < .001$) of the variance in Time 3 general distress and Time 3 anxious arousal, respectively. When interpreting the significant SC perfectionism x self-kindness interactions, Figure 2 shows that for individuals high in SC perfectionism, there was a significant decrease in Time 3 general distress, slope = -3.32, $t(118) = -2.34$, $p < .05$, and Time 3 anxious arousal, slope = -2.28, $t(118) = -3.49$, $p < .001$, as Time 2 SCS self-kindness increased from low to high levels. Results revealed that Time 2 self-kindness was not related to Time 3 general distress ($p = .74$) and Time 3 anxious arousal ($p = .33$) for participants low in SC perfectionism.

SC perfectionism and Self-Judgment. As shown in Table 4, Time 2 self-judgment did not uniquely predict significant amounts of Time 3 general distress and Time 3 anxious arousal. Similarly, in step four, Time 1 SC perfectionism did not significantly predict changes in Time 3 general distress and Time 3 anxious arousal. In the final step, Time 1 SC perfectionism and Time 2 self-judgment failed to interact to predict Time 3 general distress scores, however, did interact to uniquely predict 2% of the variance ($p < .05$) in Time 3 anxious arousal scores. The interpretation of the significant SC perfectionism x self-judgment interaction (see Figure 2) revealed that, for individuals high in SC perfectionism, there was an increase approaching significance in Time 3 anxious arousal scores, slope = 1.56. $t(118) = 1.77$, $p < .08$, as Time 2 self-judgment increased from low to high levels. Time 2 self-judgment was not related, slope = -.41, $t(118) = -.58$, $p = .56$, to Time 3 anxious arousal among participants low in SC perfectionism.

SC perfectionism and Common Humanity. Results presented in Table 4 show that Time 2 SCS common humanity significantly predicted 4% ($p < .01$) and 3% ($p < .01$) of unique variance in Time 3 general distress and Time 3 anxious arousal, respectively. In the fourth step,

Time 1 SC perfectionism did not predict significant amounts of incremental validity in Time 3 general distress and Time 3 anxious arousal. In the final step, the Time 1 SC perfectionism x Time 2 common humanity interaction did not predict Time 3 general distress, but did predict 2% of incremental validity in Time 3 anxious arousal scores ($p < .05$). Inspecting the significant SC perfectionism x common humanity interaction, Figure 2 shows that for high SC perfectionistic individuals, significant decreases in Time 3 anxious arousal, slope = -2.17, $t(118) = -3.20$, $p < .01$, were observed when Time 2 common humanity levels increased from low to high. Time 2 common humanity was not significantly related to Time 3 anxious arousal for low SC perfectionistic individuals ($p = .44$).

SC perfectionism and Isolation. As shown in Table 4, Time 2 isolation did not significantly predict incremental amounts of variance in Time 3 general distress and Time 3 anxious arousal. In the fourth step, Time 1 SC perfectionism significantly predicted 2% of incremental variance ($p < .05$) in Time 3 general distress scores but not Time 3 anxious arousal. In the fifth step, Time 1 SC perfectionism and Time 2 isolation did not significantly interact to predict changes in Time 3 general distress or Time 3 anxious arousal.

SC perfectionism and SCS Mindfulness. Table 4 shows that Time 2 SCS mindfulness did not predict significant amounts of incremental validity in Time 3 general distress and Time 3 anxious arousal in the third step. In the next step, Time 1 SC perfectionism significantly predicted 2% unique variance in Time 3 general distress ($p < .05$) but did not in Time 3 anxious arousal. When entered in the fifth step, Time 1 SC perfectionism and Time 2 SCS mindfulness significantly interacted to predict 3% of unique variance ($p < .01$) in Time 3 general distress scores, and 2% of incremental validity ($p < .05$) in Time 3 anxious arousal. Interpreting the significant SC perfectionism x SCS mindfulness interactions, Figure 2 illustrates that for

participants with high SC perfectionism, there were significant decreases in Time 3 general distress, slope = -3.47, $t(118) = -2.66$, $p < .01$, and in Time 3 anxious arousal, slope = -1.56 , $t(118) = -2.54$, $p < .05$, as Time 2 SCS Mindfulness increased from low to high levels. Time 2 SCS mindfulness was not significantly related to Time 3 general distress ($p = .57$) and Time 3 anxious arousal for low SC perfectionistic individuals ($p = .67$).

SC perfectionism and Over-Identification. Table 4 shows that in the third step of analyses, Time 2 over-identification uniquely predicted 5% of the variance ($p < .001$) in Time 3 general distress and 3% of the variance ($p < .01$) in Time 3 anxious arousal. When entered in the fourth step, Time 1 SC perfectionism did not significantly predict incremental validity in either Time 3 general distress or Time 3 anxious arousal. In the final step, Time 1 SC perfectionism significantly interacted with Time 2 over-identification to uniquely predict 2% of the variance ($p < .05$) in Time 3 general distress, but did not significantly predict Time 3 anxious arousal. Interpreting the significant SC perfectionism x over-identification interaction, Figure 2 shows that for participants high in SC perfectionism, there was a significant increase in Time 3 general distress, slope = 6.14, $t(118) = 3.52$, $p < .001$, as levels of Time 2 over-identification increased from low to high. Time 2 over-identification was not significantly related to Time 3 general distress ($p = .19$) for low SC perfectionists.

Tests of PS perfectionism as a Moderator

The same eighteen multiple hierarchical regression analyses were repeated testing the effects of Time 1 PS perfectionism as a moderator between the Time 2 FFMQ mindfulness domain and five facets and general distress, anxious arousal, and anhedonic depression symptoms, respectively, at Time 3. Entered in the fourth block, PS perfectionism did not predict significant amounts of incremental variance in Time 3 depressive and anxious symptoms. In the

fifth step, only the Time 1 PS perfectionism x act with awareness interaction significantly predicted Time 3 general distress, which is a result that could be expected by chance. Similarly, twenty-one multiple regression analyses were repeated to test the effects of PS perfectionism as a moderator between the self-compassion domain and six facets and general distress, anxious arousal, and anhedonic depression, respectively. Results showed that all the PS perfectionism x self-compassion domain and facet interactions failed to predict changes in Time 3 depressive and anxious symptoms.

Discussion

The present study built substantively on previous literature by demonstrating that mindfulness and self-compassion are effective emotion regulation strategies that decrease vulnerability to depressive and anxiety symptoms over time for individuals with higher SC perfectionism, but not those with lower. Further, our study was the first of its kind to illustrate the protective effects of individual mindfulness facets as well as the (mal)adaptive effects of specific self-compassion facets for high-SC perfectionists. The nuanced analyses with specific mindfulness and self-compassion facets provided a richer understanding of the mechanisms through which mindfulness and self-compassion can increase resiliency for individuals with higher SC perfectionism over time.

This discussion is organised into four sections. First, I will discuss how PS and SC perfectionism individually relate to mindfulness, self-compassion, and symptoms of depression and anxiety. The second section will focus on how mindfulness is an adaptive long-term strategy for SC perfectionistic individuals while also highlighting the specific mindfulness facets which effectively reduce depressive and anxiety symptoms. The third section discusses the longitudinal protective effects of self-compassion for SC perfectionists in reducing depressive and anxious

symptoms while also shedding light on the (mal)adaptive nature of specific self-compassion facets. Finally, the fourth section will present this study's clinical implications, limitations, future directions, and conclusions.

Perfectionism, Mindfulness, Self-Compassion, and Depressive and Anxious Symptoms

The current study showed that SC perfectionism was positively associated with elevated symptoms of depressive and anxious mood across time points (see Table 2). Further, SC perfectionism predicted general distress over two years, but not anxious arousal or anhedonic depression, when controlling for Time 1 and 2 depressive and anxious symptoms. On the other hand, PS perfectionism showed negligible to weak relations with symptoms of depression and anxiety across time measurements. These findings support theory and previous research suggesting that, compared to PS perfectionism, SC perfectionism is the maladaptive dimension that is consistently associated with higher levels of depressive symptoms over time (Smith et al., 2016). Moreover, the present study built substantively beyond previous literature by demonstrating that SC perfectionism is a consistent predictor of anxious arousal under specific conditions. Smith et al. (2018) showed that SC perfectionism is not a strong predictor of anxiety symptoms in and of itself, however, findings from the present study suggest that SC perfectionists are most vulnerable to anxiety symptoms when combined with lower mindfulness and self-compassion.

Similar to findings from previous literature, the current study showed that SC perfectionism had strong negative correlations with both the mindfulness and self-compassion domains (Argus & Thompson, 2008; Neff, 2003). More specifically, SC perfectionism was inversely related to all FFMQ facets except for observing. These findings fit with previous research and theoretical contentions that posit that individuals with higher SC perfectionism have

a difficult time remaining in the present moment, accepting negative distressing thoughts as they are, and often react negatively to automatic perfectionistic thoughts (Malivoire et al., 2019; Short & Mazmanian, 2013). Additionally, SC perfectionism was weak to moderately associated with lower self-compassionate behaviors (e.g., self-kindness, common humanity, mindfulness) and strongly related with elevated self-coldness behaviors (e.g., self-judgment, isolation, over-identification). These findings align with previous theoretical and empirical findings which suggest that SC perfectionists have a difficult time fostering self-compassion (Neff, 2003). On the other hand, the present study reported that PS perfectionism had negligible and weak negative relations with domain mindfulness and self-compassion, respectively. These correlational findings go against theoretical contentions that posit that PS perfectionistic individuals are more likely to engage in adaptive emotion-regulation strategies (see see Aldea & Rice, 2006; Folkman, 1984). This finding may suggest that individuals with higher PS perfectionism do not simply respond to stressors with more adaptive emotion-regulation strategies despite a tendency for engaging in adaptive coping responses (Dunkley et al., 2000).

The Effectiveness of Mindfulness for SC Perfectionistic Individuals

The present study's first objective was to examine how perfectionism facets moderate the longitudinal relationship between mindfulness and depressive and anxiety symptoms. Results showed that for individuals higher in SC perfectionism, compared to those lower on this dimension, engaging in higher levels of total mindfulness predicted lower levels of general distress and anxious arousal two years later (see Figure 1). On the other hand, PS perfectionism did not interact with the mindfulness domain to predict changes in general distress, anxious arousal, or anhedonic depression symptoms two years later. Mindfulness may buffer against depressive and anxiety symptoms by helping SC perfectionists alter their relationship with

inflexible perfectionistic thoughts instead of wishing to change the content of these thoughts (Moroz & Dunkley, 2019). It is theorized that decentering processes are at the core of mindfulness' beneficial effects as decentering helps SC perfectionists generate distance from distressing thoughts through viewing these occurrences as passing mental events rather than a true representation of the self (Teasdale, 1999). Decentering through mindfulness may lower distress associated with negative thoughts, making it easier for SC perfectionists to tolerate these mental events and approach them with adaptive emotion regulation strategies rather than implicitly or explicitly turning to maladaptive emotion regulation to provide short-term distress relief (Baer et al., 2006; Hayes & Feldman, 2006; Malivoire et al., 2019).

Research has identified nonreactivity, nonjudgmental acceptance, and describing as important mindfulness skills that contribute to decentering processes (Gecht et al., 2014). As these are three of the five facets that make up domain mindfulness, their common function of decentering may explain the domain of mindfulness' long-term protective effects for individuals with higher SC perfectionism. When decomposing mindfulness into its individual facets, results showed that high, but not low SC perfectionists, who engaged in describing and nonreactivity experienced decreases in general distress and anxious arousal symptoms over two years. Further, high SC perfectionists, but not those low on this dimension, experienced decreases in anxious arousal only, when levels of nonjudgmental acceptance increased from low to high. Describing may protect SC perfectionists by helping them acknowledge and fully experience the presence of negative thoughts within consciousness leading to their disengagement from avoidant-based emotion regulation (e.g., experiential avoidance, expressive suppression) and also making it easier to disclose verbalized negative thoughts with significant others (Bergin & Pakenham, 2016; Moroz & Dunkley, 2019). Nonreactivity may lower both general distress and anxious

arousal by helping SC perfectionists take a balanced approach to their negative thoughts without becoming carried away or overreacting to them. Through remaining nonreactive, SC perfectionists possess more time to process mental events rationally leading to increased decentering and the use of more adaptive emotion responses (Baer et al., 2006). Nonjudgmental acceptance may decrease anxious arousal as SC perfectionists begin to view and accept distressing perfectionistic thoughts as they are and tolerate their existence within consciousness. Through altered appraisals, SC perfectionists may feel less compelled to respond to self-critical thoughts with maladaptive emotion regulation and begin to engage in more appropriate emotional responses (Baer et al., 2006).

Results also showed that high, but not low SC perfectionists, who engaged in observing experienced decreases in general distress and anxious arousal symptoms over two years. It is posited that observing effectively reduces both depressive and anxious symptoms in times of chronic stress (Bergin & Pakenham, 2016). Seeing as SC perfectionists often react negatively to stress, observing may in fact serve as a useful strategy to decrease both general distress and anxious arousal as SC perfectionists begin to direct their focus on their senses rather than ruminating over distressing perfectionistic thoughts (Bergin & Pakenham, 2016; Dunkley, Mandel, et al., 2014).

Mindfulness failed to interact with SC perfectionism to predict changes in anhedonic depression two years later. This null finding may be understood by looking deeper into the relations between both positive and negative affect, and facets of depressive and anxious symptoms. Watson et al. (1995) showed that negative affect was strongly related to both general symptoms of depression and anxiety whereas lower positive affect was more strongly and consistently related to specific depressive symptoms. Moreover, it is suggested that anxious

arousal is "essentially a state of high negative affect" (Watson et al., 1995). In other words, both general distress and anxious arousal are strongly influenced by negative affect whereas low positive affect plays a more important role in the expression of anhedonic depression symptoms. Theory posits that mindfulness effectively lowers psychological distress (Baer, 2003). Further, Raphiphatthana et al. (2016) showed that mindfulness facets were more consistently related to both lower general distress and anxious arousal compared to anhedonic depression. It is possible that mindfulness works by levelling the negative affect and distress of perfectionistic thoughts within normal ranges leading to reductions in general distress and anxious arousal. Conversely, the current study and previous theory suggest that mindfulness may have little impact on making SC perfectionists feel more excited, proud and accomplished with regards to their performance, which may explain the lack of significant findings with anhedonic depression.

The Effectiveness of Self-Compassion for SC Perfectionistic Individuals

Findings suggest that individuals higher in SC perfectionism, relative to those lower, who engaged in the domain of self-compassion experienced decreases in both general distress and anxious arousal two years later (see Figure 2). On the other hand, PS perfectionism did not interact with self-compassion or any of its facets to predict longitudinal changes in depressive and anxious symptoms. Previous literature has used cross-sectional designs to examine the protective effects of self-compassion use for SC perfectionists on depressive symptoms (Ferrari et al., 2018; Wong & Mak, 2013). Findings from the current study extend beyond those of Ferrari et al. (2018) and Wong and Mak (2013) by demonstrating that self-compassion buffers SC perfectionists against both symptoms of depression and anxiety over time.

Theory and research suggest that self-compassion may play an important role in reducing depressive and anxiety symptoms among SC perfectionists by decreasing core dysfunctional

beliefs and by lowering distress associated with negative thoughts. First, self-compassion invokes changes in both pathogenic qualities of self-criticism by decreasing the level of self-directed hostility while also increasing the ability to generate feelings of self-warmth (Gilbert & Procter, 2006). Secondly, self-compassion is said to stabilize mood within an acceptable range by transforming negative self-affect (i.e., feeling bad about one's inadequacies or failures) into positive self-affect (i.e., feeling kindness and understand towards oneself; i.e., feeling kindness and understand towards oneself; Berking & Whitley, 2014). Through reduced distress from perfectionistic thoughts, mood stabilizing helps SC perfectionists experience fewer difficulties in controlling automatic responses, such as maladaptive emotion regulation (e.g., rumination, experiential avoidance, expressive suppression) thus creating the opportunity to engage in more rational and adaptive coping responses (Berking & Whitley, 2014; Finlay-Jones et al., 2015).

With regards to specific elements of self-compassion, high SC perfectionists, but not low, who engaged in self-kindness saw decreases in both general distress and anxious arousal, whereas those who engaged in self-judgment experienced increases in anxious arousal. Approaching failure and mental experiences with self-kindness may protect high SC perfectionists by lowering self-directed hostility and bolstering self-warmth (Gilbert & Procter, 2006). Additionally, self-kindness may also help perfectionists become more accepting of self-critical thoughts leading to lower distress and increased likelihood of disengaging from maladaptive emotion regulation (Finlay-Jones et al., 2015). Conversely, engaging in self-judgment may heighten general distress as SC perfectionists continue to draw attention to their flaws and personal inadequacies. With self-critical thoughts evoking similar or elevated levels of distress, SC perfectionists continue to automatically orient themselves to problematic patterns of

over (i.e., rumination) or under-engagement (e.g., experiential avoidance, expressive suppression) for short-term distress relief (Finlay-Jones et al., 2015).

Secondly, high SC perfectionists, but not low, who engaged in common humanity experienced decreases in anxious arousal two years later. Alternatively, SC perfectionism and isolation did not interact to predict changes in depressive and anxious symptoms. Common humanity may decrease anxious arousal by lowering distress associated with punitive self-critical thoughts as high SC perfectionists begin to realize that failure and a loss of emotional control is part of the human experience rather than a personal deficiency (Wong & Mak, 2013). Engaging in common humanity may encourage SC perfectionists to engage in less expressive suppression through disclosing their emotional flaws and self-critical thoughts with others who have shared similar experiences (Ferrari et al., 2018). Additionally, with failure holding less personal relevance, it is plausible that perfectionistic mental events will evoke less distress thus increasing the likelihood that SC perfectionists turn to more adaptive emotion regulation instead of relying on rumination and experiential avoidance.

Lastly, high SC perfectionists, but not those low on this dimension, who engaged in mindfulness saw decreases in both general distress and anxious arousal, whereas those who engaged in over-identification experienced increases in general distress two years later. Engaging in mindfulness in a self-compassion context may buffer high SC perfectionists against depressive and anxious symptoms through decentering processes. Distancing one's self from mental experience may alleviate distressing thoughts making it less likely that SC perfectionistic individuals will automatically engage in maladaptive emotion regulation tendencies (Prakash et al., 2015). Alternatively, viewing negative mental experiences as a true reflection of the self through over-identification may increase anxious arousal among high SC perfectionistic

individuals by maintaining or increasing distress of perfectionistic thoughts. In order to quickly manage this distress, SC perfectionists are more likely to implicitly or explicitly turn to maladaptive emotion regulation strategies such as rumination, experiential avoidance and expressive suppression (Prakash et al., 2015).

Self-compassion was not found to be a long-term adaptive strategy for SC perfectionists to decrease anhedonic depression. Similar to mindfulness, self-compassion has been theorized to effectively reduce distress (Neff & Dahm, 2015). It is possible that self-compassion works primarily by decreasing negative affect which has been shown to have strong ties to both general distress and anxious arousal (Watson et al., 1995). Contrarily, self-compassion may not play much of a role in elevating positive affect levels, thus explaining the lack of significant interactions involving anhedonic depression (Watson et al., 1995).

Clinical Implications

It is especially important to consider this study's clinical implications in order to strengthen prevention efforts against depression and anxiety disorders within the general population. For one, the current study provides further support for measuring and examining perfectionism as a multidimensional construct as, relative to PS perfectionism, SC perfectionism is more strongly related to depressive and anxious symptoms (e.g., Dunkley et al., 2003; Frost et al., 1990; Hewitt & Flett, 1991; Mandel et al., 2015; Slaney et al., 2001; Stoeber & Otto, 2006). With this in mind, researchers and clinicians should orient their attention to SC perfectionism, instead of PS perfectionism, for the prevention and treatment of depressive and anxiety symptoms among vulnerable individuals.

Second, the current study provides important insights to consider in prevention efforts against depression and anxiety disorders within nonclinical populations. Findings from the

current study suggest that high SC perfectionists receive long-term buffering effects against depressive and anxious symptoms when engaging in mindfulness and self-compassion. Taking this into consideration, mindfulness and self-compassion principles and strategies should be promoted and incorporated into the daily lives of SC perfectionists in order to boost their resiliency against depression and anxiety disorders. Mindfulness and self-compassion can be fostered through mindfulness and compassion-based interventions such as MBSR and CFT, respectively. With research reporting only moderate effects of mindfulness and self-compassion in reducing depressive and anxious symptoms, the present study suggests that it may be more appropriate to promote mindfulness and self-compassion to specific individuals (e.g., SC perfectionists) rather than as effective strategies for the general population. Additionally, findings from the present study suggest that in combination with traditional CBT, it may be beneficial for clinicians to incorporate aspects of mindfulness and self-compassion into clinical practice to treat their perfectionistic patients. In order to confirm this, future studies are needed to examine whether the beneficial effects of mindfulness and self-compassion extrapolate to clinical populations.

A third clinical implication emerging from the present study is that some aspects of mindfulness and self-compassion seem to be more adaptive than others. The current findings suggest that the most adaptive mindfulness facets include observing, describing, and nonreactivity as SC perfectionists experience reductions in both general distress and anxious arousal. This would suggest that observing internal experiences, describing and labelling them with words and remaining nonreactive to distressing thoughts may drive many of the transdiagnostic effects of mindfulness. Secondly, findings from the current study suggest that self-kindness and mindfulness are the most adaptive facets of self-compassion for SC

perfectionistic individuals as they bolster resiliency against both general distress and anxious arousal. Rather than directing time and resources into fostering all aspects of mindfulness and self-compassion, society at large can encourage high SC perfectionists to orient their attention to fostering only the most relevant components in order to efficiently maximize their buffering effects.

Lastly, the present study provides rationale for researchers, clinicians and intervention developers to create new and alter existing MBIs and CBIs tailored specifically for perfectionistic individuals. These innovative interventions can maximize treatment effects by catering programs to specifically foster the most beneficial components of mindfulness and self-compassion. To my knowledge, only two studies have examined how perfectionists respond to mindfulness-based interventions. First, James and Rimes (2018) randomized 65 university students that were experiencing difficulties due to perfectionism or high standards into either an MBCT program specifically tailored for perfectionism or into a CBT self-help condition. Findings showed that compared to the active control group, MBCT participants had significantly lower levels of perfectionism (concern over mistakes and personal standards), clinical perfectionism and stress at post-treatment and 10 weeks later. No significant group differences in depression and anxiety scores at either post-treatment or follow-up were observed. In the second study, Wimberley et al. (2016) examined the effect of a 6-week self-help mindfulness book program for perfectionistic individuals. Compared to wait-list controls, those receiving the mindfulness book program demonstrated greater reductions in pre-post perfectionism and stress levels, but not negative affect. Despite both demonstrating reductions in perfectionism and stress, neither study found that their respective MBIs were effective in reducing depression and anxiety related symptoms. Findings from the current study suggest that novel or existing MBIs can

maximize their effectiveness in treating SC perfectionists by specifically tailoring interventions to increase the observing, describing, and nonreactivity components of mindfulness.

To my knowledge, only one study has investigated the effects of compassion-based interventions for self-critical individuals. In a pilot study, Gilbert and Procter (2006) wished to investigate the effectiveness of 12 two-hour Compassionate Mind Training (CMT; Gilbert & Procter, 2006) sessions on six self-critical individuals. CMT is a central component of Compassion-Focused Therapy (CFT) whereby CMT refers to the interventions used to cultivate self-compassion while CFT is the entire process of therapy (Beaumont, Rayner, Durkin, & Bowling, 2017). Results demonstrated significant pre-post decreases in depression, anxiety, self-criticism and shame. Future studies with larger sample sizes are needed to test the effects of CBIs on SC perfectionistic individuals in order to confirm the veracity of these findings. With little research examining the effectiveness of CBIs on perfectionistic patients, the current study suggests that interventions tailored specifically to fostering self-kindness and mindfulness may be most effective for future intervention efforts.

Limitations

Notwithstanding significant theoretical and methodological improvements beyond the current mindfulness and self-compassion literature, the present study possesses several limitations that should be addressed in future research. For one, all measures to assess perfectionism, mindfulness, self-compassion and depressive and anxiety symptoms were self-report. The use of more objective measures such as interviews or behavioral observations would prove increasingly beneficial when aiming to replicate these findings. Second, researchers have advised against using the SCS-SF for specific subscale analyses due to low individual subscale reliability (Raes et al., 2011). Considering that similar self-compassion dimension reliabilities

were found in the present study, future research is needed to examine whether results replicate using the original Self-Compassion Scale (Neff, 2003). Third, replication studies using a more representative sample are needed to increase the current findings' generalizability as our sample was disproportionately comprised of female and English-speaking participants. Fourth, it is important to examine the generalizability of current findings to clinical populations, including those with depression and anxiety. Replication studies using clinically diagnosed patients would make for better informed therapeutic interventions.

Fifth, with research having identified specific (mal)adaptive perfectionism components in relation to stress, coping and affect (e.g.,Dunkley, Blankstein, Masheb, et al., 2006; Dunkley, Zuroff, et al., 2006; Prud'homme et al., 2017), research is needed to examine the interaction of specific DEQ, HMPS, FMPS and APS-R facets and mindfulness, and self-compassion to identify which aspects of SC perfectionism benefit most from these strategies. Lastly, in order to improve the prevention efforts of depressive and anxious symptoms, future research is needed to identify other vulnerable populations for which mindfulness and self-compassion are effective.

Conclusion

A longitudinal three-wave design was used to better understand the role of perfectionism in relation to mindfulness, self-compassion, and depressive and anxious symptoms over time. The current study provided additional evidence supporting the need to differentiate between higher-order perfectionism dimensions, as SC perfectionism, but not PS perfectionism, was negatively associated with mindfulness and self-compassion, and positively related with depressive and anxious symptoms. Secondly, results showed that high SC perfectionists, but not those low on this dimension, who engaged in the domains of mindfulness and self-compassion experienced decreases in symptoms of depression and anxiety two years later. Individual facet

interactions revealed that the observing, describing, and non-reactivity aspects of mindfulness, and the self-kindness and mindfulness components of self-compassion were the most adaptive strategies for SC perfectionists as they were coupled with decreases in both general distress and anxious arousal. Considering that mindfulness and self-compassion interventions are only moderately effective in reducing depressive and anxious symptoms, their societal value may be amplified by identifying individuals with higher SC perfectionism for which these strategies may be particularly effective.

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Table 1

Means, Standard Deviations, Alpha Coefficients of Perfectionism, Mindfulness, Self-Compassion and Depressive and Anxious Symptoms Measures

Variable	Mean	SD	α
		Time 1	
1. Self-Critical Perfectionism	-.01	.88	.95
2. Personal Standards Perfectionism	.03	.92	.94
3. General Distress	43.61	16.26	.92
4. Anxious Arousal	23.29	7.81	.92
5. Anhedonic Depression	55.02	15.11	.92
		Time 2	
6. FFMQ Total	129.72	21.54	.91
7. FFMQ Observe	25.06	6.91	.86
8. FFMQ Describe	28.81	6.50	.90
9. FFMQ Act with Awareness	26.63	7.56	.92
10. FFMQ Nonjudgmental Acceptance	27.54	7.83	.92
11. FFMQ Nonreactivity	21.69	4.73	.81
12. SCS Total	39.27	8.39	.83
13. SCS Self-Kindness	6.61	1.92	.72
14. SCS Self-Judgment	6.56	2.26	.79
15. SCS Commo Humanity	6.57	2.07	.66
16. SCS Isolation	6.07	2.36	.73
17. SCS Mindfulness	7.14	1.76	.71
18. SCS Over-Identification	6.33	2.29	.75
19. General Distress	44.80	15.66	.92
20. Anxious Arouasl	24.11	8.11	.94
21. Anhedonic Depression	57.86	15.57	.94
		Time 3	
22. General Distress	42.41	16.17	.92
23. Anxious Arousal	23.52	7.79	.94
24. Anhedonic Depression	56.50	15.50	.93

Note. FFMQ = Five Facet Mindfulness Questionnaire; SCS = Self-Compassion Scale.
N = 124.

Table 2
Bivariate correlations

	Wave 1					Wave 2															Wave 3		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
												Wave 1												
1. SCP	-	.51	.57	.41	.47	-.52	.01	-.28	-.44	-.59	-.28	-.67	-.23	-.23	-.30	.57	.64	.59	.58	.29	.54	.55	.37	.45
2. PSP		-	.22	.11	-.06	-.06	.25	.04	-.14	-.26	-.02	-.27	-.07	.01	.01	.37	.37	.19	.17	.07	.07	.10	.05	.02
3. GDX			-	.73	.60	-.47	.05	-.26	-.47	-.46	-.20	-.43	-.09	-.23	-.12	.34	.44	.42	.57	.30	.37	.63	.55	.32
4. AA				-	.42	-.34	.00	-.25	-.32	-.35	-.14	-.27	-.07	-.17	-.16	.18	.22	.26	.41	.44	.26	.47	.67	.27
5. AD					-	-.53	-.31	-.40	-.32	-.36	-.33	-.45	-.25	-.36	-.29	.25	.29	.34	.44	.16	.58	.53	.38	.65
												Wave 2												
6. FFMQ TOTAL						-	.44	.73	.75	.67	.60	.70	.43	.47	.45	-.46	-.49	-.46	-.60	-.33	-.61	-.53	-.44	-.50
7. FFMQ Observe							-	.23	.01	-.12	.39	.17	.25	.28	.27	-.03	.03	.06	-.16	-.03	-.17	-.24	-.09	-.20
8. FFMQ Describe								-	.42	.31	.43	.43	.30	.34	.29	-.25	-.23	-.31	-.38	-.28	-.47	-.27	-.33	-.37
9. FFMQ Awareness									-	.62	.21	.56	.26	.32	.32	-.38	-.49	-.42	-.51	-.24	-.46	-.45	-.36	-.36
10. FFMQ Nonjudga										-	.14	.55	.27	.21	.25	-.47	-.46	-.45	-.49	-.31	-.47	-.36	-.38	-.36
11. FFMQ Nonreact											-	.53	.32	.39	.33	-.31	-.42	-.33	-.33	-.18	-.38	-.37	-.21	-.34
12. SCS TOTAL												-	.63	.57	.62	-.70	-.76	-.65	-.62	-.33	-.62	-.59	-.41	-.46
13. SCS Self-Kindness													-	.65	.58	-.22	-.15	-.07	-.33	-.32	-.38	-.25	-.22	-.29
14. SCS Mindfulness														-	.55	-.09	-.15	-.04	-.34	-.24	-.38	-.32	-.27	-.29
15. SCS ComHum															-	-.10	-.26	-.08	-.40	-.30	-.45	-.39	-.33	-.36
16. SCS Self-Judge																-	.64	.54	.36	.08	.33	.37	.21	.28
17. SCS Over-Ident																	-	.64	.51	.18	.41	.56	.34	.29
18. SCS Isolation																		-	.49	.22	.48	.41	.24	.30
19. GDX																			-	.65	.69	.63	.48	.38
20. AA																				-	.39	.28	.47	.14
21. AD																					-	.52	.37	.64
												Wave 3												
22. GDX																						-	.75	.62
23. AA																							-	.40
24. AD																								-

Note. SCP = Self-Critical Perfectionism; PSP = Personal Standards Perfectionism; GDX = General Distress Anxious and Depressive Symptoms; AA = Anxious Arousal; AD = Anhedonic Depression SCS = Self-Compassion Scale; ComHum = Common Humanity; Over-Ident = Over-Identification; FFMQ = Five Facet Mindfulness Questionnaire; Awareness = Act with Awareness; Nonjudga = Nonjudgmental Acceptance.
N= 124.
Any correlations greater than or equal to .18 are significant at $p < .05$.

Table 3

Hierarchical Multiple Regression Analyses Predicting Time 3 Anxiety and Depressive Symptoms with Mindfulness Subscales and SC Perfectionism

Variables	B	SE B	95% CI	B	Adj.R^2	ΔR^2	DF	ΔF
Self-Critical Perfectionism X FFMQ Total Mindfulness								
A1. Model Predicting T3 GDX								
T1 GDX	.25	.08	[.08, .41]	.25	.35	.36	1, 122	68.34***
T2 GDX	.27	.09	[.08, .46]	.26	.47	.12	1, 121	29.00***
T2 FFMQTOT	-1.51	1.34	[-4.17, 1.15]	-.09	.48	.14	1, 120	3.35
T1 SCP	2.85	1.31	[.25, 5.46]	.18	.50	.16	1, 119	4.02*
T1 SCP x FFMQTOT	-2.00	.87	[-3.72, -.29]	-.16	.52	.02	1, 118	5.34*
A2. Model Predicting T3 AA								
T1 AA	.49	.07	[.34, .63]	.49	.43	.43	1, 122	93.01***
T2 AA	.16	.07	[.03, .30]	.17	.47	.04	1, 121	9.65**
T2 FFMQTOT	-.94	.61	[-2.15, .26]	-.12	.49	.03	1, 120	7.75**
T1 SCP	.37	.58	[-.77, 1.51]	.05	.49	.00	1, 119	.61
T1 SCP x FFMQTOT	-1.02	.40	[-1.82, -.22]	-.17	.51	.03	1, 118	6.37*
Self-Critical Perfectionism X Observe								
B1. Model Predicting T3 GDX								
T2 OBSRV	-2.65	1.00	[-4.63, -.66]	-.17	.49	.02	1, 120	4.70*
T1 SCP	3.24	1.26	[.75, 5.72]	.21	.52	.03	1, 119	7.22**
T1 SCP x T2 OBSRV	-2.82	.93	[-4.66, -.98]	-.20	.55	.03	1, 118	9.18**
B2. Model Predicting T3 AA								
T2 OBSRV	-.49	.49	[-1.47, .48]	-.06	.47	.00	1, 120	1.24
T1 SCP	.62	.54	[-.45, 1.68]	.08	.48	.02	1, 119	3.59
T1 SCP x T2 OBSRV	-1.31	.48	[-2.19, -.42]	-.20	.51	.03	1, 118	8.54**
Self-Critical Perfectionism x Describe								
C1. Model Predicting T3 GDX								
T2 DESCR	.11	1.12	[-2.10, 2.32]	.01	.47	.00	1, 120	.01
T1 SCP	3.39	1.31	[.81, 5.98]	.22	.49	.02	1, 119	5.37*
T1 SCP x T2 DESCR	-2.41	1.03	[-4.45, -.37]	-.16	.51	.02	1, 118	5.50*
C2. Model Predicting T3 AA								
T2 DESCR	-.72	.52	[-1.76, .31]	-.09	.48	.02	1, 120	3.52
T1 SCP	.77	.53	[-.27, 1.81]	.10	.48	.01	1, 119	2.41
T1 SCP x T2 DESCR	-1.54	.47	[-2.47, -.60]	-.21	.52	.04	1, 118	10.65***
Self-Critical Perfectionism x Acting with Awareness								
D1. Model Predicting T3 GDX								
T2 AWA	-1.09	1.26	[-3.58, 1.40]	-.07	.48	.01	1, 120	1.28
T1 SCP	2.90	1.33	[.26, 5.53]	.19	.49	.02	1, 119	4.82*
T1 SCP x T2 AWA	.34	.92	[-1.47, .2.16]	.03	.49	.00	1, 118	.14
D2. Model Predicting T3 AA								
T2 AWA	-.83	.58	[-1.97, .31]	-.11	.48	.02	1, 120	4.20*
T1 SCP	.70	.58	[-.44, 1.84]	.09	.48	.01	1, 119	1.53
T1 SCP x T2 AWA	-.08	.44	[-.95, .79]	-.01	.48	.00	1, 118	.03

(Table 3 Continues)

(Table 3 continued)

Variables	B	SE B	95% CI	B	Adj.R^2	ΔR^2	DF	ΔF
Self-Critical Perfectionism x Nonjudgmental Acceptance								
E1. Model Predicting T3 GDX								
T2 NJA	1.78	1.32	[-.83, 4.39]	.11	.47	.00	1, 120	.09
T1 SCP	3.92	1.41	[1.13, 6.71]	.25	.50	.03	1, 119	7.11**
T1 SCP x T2 NJA	-1.91	1.00	[-3.89, .07]	-.12	.51	.02	1, 118	3.66
E2. Model Predicting T3 AA								
T2 NJA	-.72	.64	[-1.98, .55]	-.09	.48	.02	1, 120	4.09*
T1 SCP	.57	.62	[-.66, 1.81]	.08	.48	.00	1, 119	.91
T1 SCP x T2 NJA	-.99	.48	[-1.95, -.04]	-.13	.49	.02	1, 118	4.23*
Self-Critical Perfectionism x Nonreactive								
F1. Model Predicting T3 GDX								
T2 NONR	-2.05	1.09	[-4.21, .11]	-.13	.49	.02	1, 120	5.24*
T1 SCP	2.81	1.28	[.27, 5.35]	.18	.51	.02	1, 119	4.53*
T1 SCP x T2 NONR	-1.80	.83	[-3.44, -.17]	-.15	.52	.02	1, 118	4.76*
F2. Model Predicting T3 AA								
T2 NONR	-.22	.53	[-1.28, .84]	-.03	.47	.01	1, 120	1.33
T1 SCP	.74	.55	[-.36, 1.83]	.10	.48	.01	1,119	2.71
T1 SCP x T2 NONR	-.86	.40	[-1.65, -.07]	-.15	.49	.02	1, 118	4.65*

Note. SCP = Self-Critical Perfectionism; GDX = General Distress Anxious and Depressive Symptoms; AA = Anxious Arousal; AD= Anhedonic Depression; FFMQTOT = Five Facet Mindfulness Questionnaire Total Score; OBSERV= Observe; DESCR = Describe; AWA = Act with Awareness; NJA = Nonjudgmental Acceptance; NONR = Nonreactivity.
N = 124.
* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4

Hierarchical Multiple Regression Analyses Predicting Time 3 Anxiety and Depressive Symptoms with Self-Compassion Subscales and SC Perfectionism

Variables	B	SE B	95% CI	B	Adj.R^2	ΔR^2	DF	ΔF
Self-Critical Perfectionism X Total Self-Compassion								
A1. Model Predicting T3 GDX								
T1 GDX	.30	.08	[.15, .46]	.30	.35	.36	1, 122	68.34***
T2 GDX	.19	.09	[.00, .37]	.18	.47	.12	1, 121	29.00***
T2 SCSTOT	-4.82	1.46	[-7.72, -1.93]	-.30	.52	.05	1, 120	12.33***
T1 SCP	.93	1.42	[-1.88, 3.75]	.06	.52	.00	1, 119	.64
T1 SCP X T2 SCSTOT	-2.37	.83	[-4.01, -.73]	-.19	.55	.03	1,118	8.21**
A2. Model Predicting T3 AA								
T1 AA	.53	.07	[.38, .67]	.53	.43	.43	1, 122	93.01***
T2 AA	.15	.07	[.02, .29]	.16	.47	.04	1, 121	9.65**
T2 SCSTOT	-1.76	.67	[-3.08, -.44]	-.23	.50	.04	1, 120	9.09**
T1 SCP	-.27	.67	[-1.60, 1.05]	-.04	.50	.00	1, 119	.00
T1 SCP x T2 SCSTOT	-1.13	.39	[-1.89, -.37]	-.19	.53	.03	1, 118	8.60 **
Self-Critical Perfectionism X Self-Kindness								
B1. Model Predicting T3 GDX								
T2 SK	-1.43	1.09	[-3.59, .73]	-.09	.48	.01	1, 120	1.95
T1 SCP	2.88	1.30	[.32, 5.45]	.19	.50	.02	1, 119	4.84*
T1 SCP x T2 SK	-1.89	.86	[-3.58, -.19]	-.14	.51	.02	1, 118	4.87*
B2. Model Predicting T3 AA								
T2 SK	-.82	.52	[-1.85, .20]	-.11	.48	.01	1, 120	3.21
T1 SCP	.57	.52	[-.47, 1.61]	.08	.48	.01	1, 119	2.48
T1 SCP x T2 SK	-1.46	.40	[-2.24, -.67]	-.23	.53	.05	1, 118	13.56***
Self-Critical Perfectionism x Self-Judgment								
C1. Model Predicting T3 GDX								
T2 SJ	.99	1.29	[-1.56, 3.54]	.06	.48	.01	1, 120	2.42
T1 SCP	2.58	1.48	[-.34, 5.51]	.17	.49	.01	1, 119	3.28
T1 SCP x T2 SJ	.91	1.05	[-1.16, 2.99]	.06	.49	.00	1, 118	.76
C2. Model Predicting T3 AA								
T2 SJ	.58	.63	[-.67, 1.82]	.07	.47	.01	1, 120	2.12
T1 SCP	.65	.65	[-.63, 1.94]	.09	.47	.01	1, 119	1.60
T1 SCP x T2 SJ	.99	.51	[-.01, 1.99]	.13	.49	.02	1, 118	3.83*
Self-Critical Perfectionism x Common Humanity								
D1. Model Predicting T3 GDX								
T2 CH	-3.29	1.12	[-5.51, -1.06]	-.21	.51	.04	1, 120	9.66**
T1 SCP	2.46	1.29	[-.10, 5.02]	.16	.52	.01	1, 119	3.63
T1 SCP x T2 CH	-1.09	.86	[-2.80, .62]	-.08	.52	.00	1, 118	1.59
D2. Model Predicting T3 AA								
T2 CH	-1.34	.53	[-2.39, -.29]	-.17	.49	.03	1, 120	7.82**
T1 SCP	.55	.54	[-.53, 1.62]	.07	.50	.01	1, 119	1.62
T1 SCP x T2 CH	-.84	.40	[-1.63, -.04]	-.13	.51	.02	1, 118	4.29*

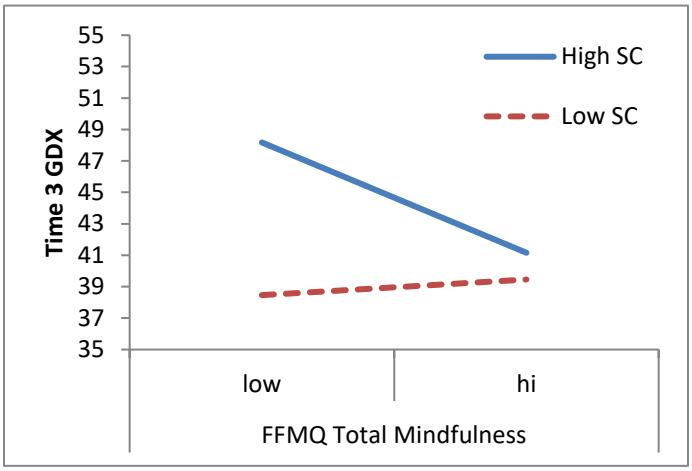
(*Table X continues)*

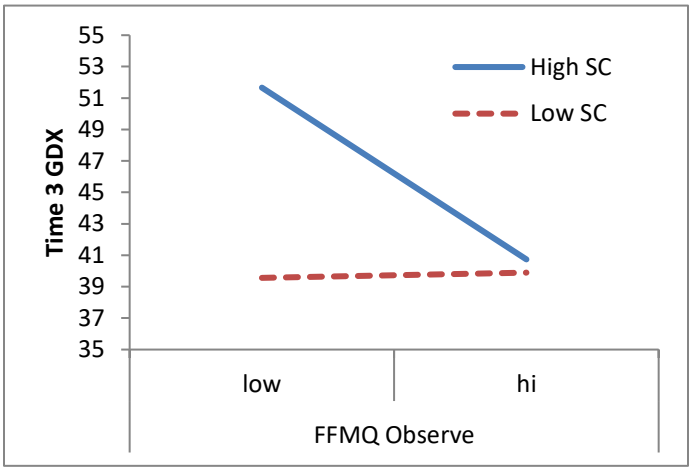
(Table 4 continued)

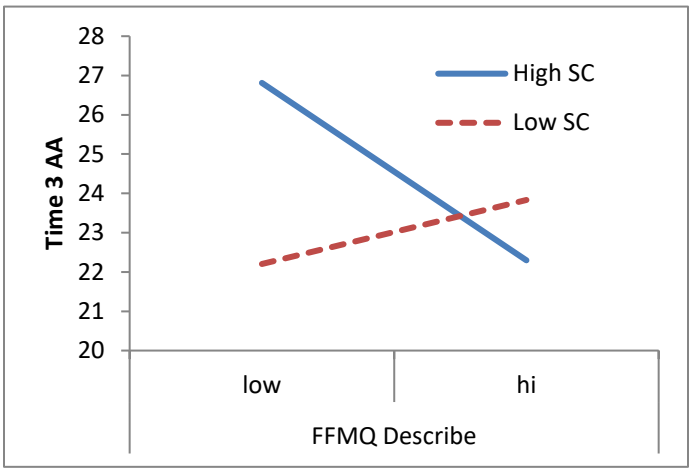
Variables	B	SE B	95% CI	B	Adj.R^2	ΔR^2	DF	ΔF
Self-Critical Perfectionism x Isolation								
E1. Model Predicting T3 GDX								
T2 ISO	-.01	1.34	[-2.65, 2.63]	.00	.47	.00	1, 120	.82
T1 SCP	3.22	1.45	[.34, 6.10]	.21	.49	.02	1, 119	4.53*
T1 SCP x T2 ISO	.91	.95	[-.98, 2.79]	.06	.49	.00	1, 118	.91
E2. Model Predicting T3 AA								
T2 ISO	-.16	.64	[-1.43, 1.11]	-.02	.46	.00	1, 120	.69
T1 SCP	1.10	.65	[-.19, 2.39]	.15	.47	.01	1, 119	2.83
T1 SCP x T2 ISO	.21	.45	[-.69, 1.11]	.03	.47	.00	1, 118	.00
Self-Critical Perfectionism x Mindfulness								
F1. Model Predicting T3 GDX								
T2 MIND	-1.34	1.08	[-3.48, .80]	-.08	.48	.01	1, 120	1.92
T1 SCP	3.14	1.28	[.61, 5.67]	.20	.50	.02	1, 119	5.40*
T1 SCP x T2 MIND	-2.13	.81	[-3.73, -.53]	-.17	.52	.03	1, 118	6.96**
F2. Model Predicting T3 AA								
T2 MIND	-.63	.52	[-1.67, .40]	-.08	.47	.01	1, 120	2.99
T1 SCP	.77	.53	[-.29, 1.82]	.10	.48	.01	1, 119	2.72
T1 SCP x T2 MIND	.93	.39	[-1.71, -.15]	-.15	.50	.02	1, 118	5.59*
Self-Critical Perfectionism x Over-Identification								
G1. Model Predicting T3 GDX								
T2 OI	4.06	1.35	[1.39, 6.73]	.25	.52	.05	1, 120	11.75***
T1 SCP	1.08	1.42	[-1.73, 3.90]	.07	.52	.00	1, 119	.85
T1 SCP x T2 OI	2.08	.91	[.29, 3.88]	.15	.53	.02	1, 118	5.27*
G2. Model Predicting T3 AA								
T2 OI	1.46	.65	[.17, 2.75]	.19	.50	.03	1, 120	7.92**
T1 SCP	-.02	.68	[-1.36, 1.33]	.00	.49	.00	1, 119	.05
T1 SCP x T2 OI	.68	.44	[-.20, 1.55]	.10	.50	.01	1, 118	2.36

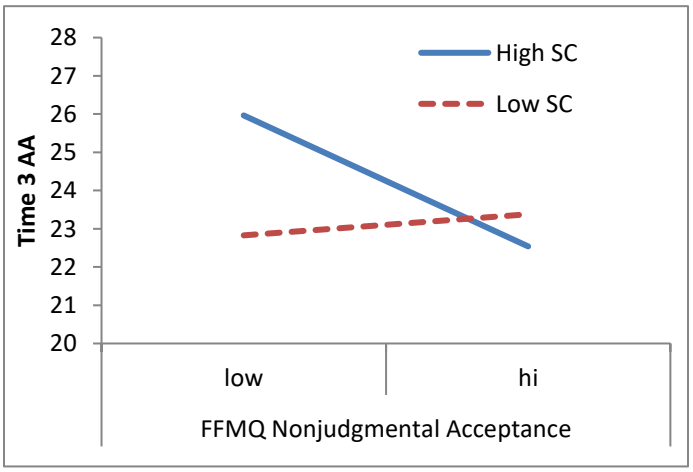
Note. SCP = Self-Critical Perfectionism; GDX = General Distress Anxious and Depressive Symptoms; AA = Anxious Arousal; AD= Anhedonic Depression; SCSTOT = Self-Compassion Scale Total Score; SK= Self-Kindness; Mind = Mindfulness; CH =Common Humanity; SJ = Self-Judgment; OI = Over-Identification; ISO = Isolation.
N = 124.
* $p < .05$; ** $p < .01$; *** $p < .001$.

Figure 1. Between-persons relations between Time 1 SC perfectionism and Time 3 general distress symptoms (GDX; above and below) and Time 3 anxious arousal (AA; middle), as a function of Time 2 FFMQ Mindfulness domain and facets. Values for SC perfectionism and FFMQ Mindfulness are plotted using low (i.e., one standard deviation below the mean) and high (i.e., one standard deviation above the mean) values.









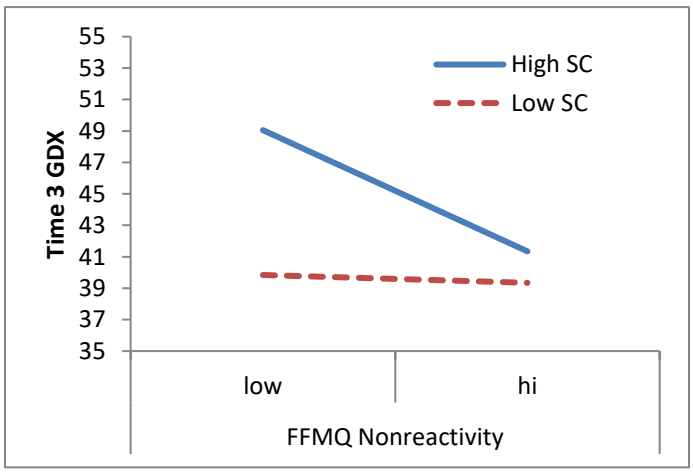


Figure 2. Between-person relations between Time 1 SC perfectionism and Time 3 general distress symptoms (GDX; above and bottom) and Time 3 anxious arousal (AA; middle), as a function of Time 2 SCS Self-Compassion domain and facets. Values for SC perfectionism and Self-Compassion are plotted using low (i.e., one standard deviation below the mean) and high (i.e., one standard deviation above the mean) values.