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The Relation between Perfectionism and Distress:

Daily Stress, Coping, and Perceived Social Support as Mediators and Moderators

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April 2001

A thesis submitted to the

Faculty of Graduate Studies and Research in

partial fulfillment of the requirements of

the degree of Doctor of Philosophy

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Abstract

Although there has been increased understanding of the dynamics of intense perfectionism and self-criticism, studies need to address more directly the mechanisms or processes through which perfectionism has its ill effects. The present research examined the roles of daily stress, coping, and perceived social support in the relation between two different perfectionism dimensions and distress symptoms (i.e., depression, anxiety, negative affect, low positive affect). In two studies, confirmatory factor analysis supported the existence of two perfectionism factors, which were referred to as evaluative concerns perfectionism and personal standards perfectionism. In Study One, university students (136 men; 307 women) completed measures of perfectionism, hassles, coping, perceived social support, depression, and anxiety. Confirmatory factor analysis supported the measurement model used in this study. Structural equation modeling indicated that hassles, avoidant coping, and perceived social support were each unique mediators which together fully explained the strong relation between evaluative concerns perfectionism and distress. Personal standards perfectionism had a unique association with active coping only. Hassles and social support also moderated the relation between both dimensions of perfectionism and distress. Study Two examined daily event appraisals, avoidant coping, and perceived social support as trait mediators in the relation between the evaluative concerns dimension of perfectionism and high negative affect and low positive affect. University students (66 men; 104 women) completed questionnaires at the end of the day for seven consecutive days. Trait influences were found in the daily reports of event appraisals, coping styles, and social support. Confirmatory factor

analysis supported the construct validity of the perfectionism and aggregated daily measures. Structural equation modeling indicated that avoidant coping fully explained the relation between evaluative concerns perfectionism and negative affect, while perceived social support was the primary mediator of the negative relation between evaluative concerns perfectionism and positive affect. In addition, self-blame and low perceived efficacy fully explained the relation between evaluative concerns perfectionism and avoidant coping. Theoretical and clinical implications of the research were discussed.

Résumé

Même si l'on comprend de mieux en mieux la dynamique du perfectionnisme et de l'autocritique intenses, les études doivent s'intéresser plus directement aux mécanismes ou processus aux termes desquels le perfectionnisme a des effets néfastes. La présente recherche porte sur le rôle du stress quotidien, de la réponse au stress et du soutien social perçu dans le rapport entre deux différents aspects du perfectionnisme et les symptômes de détresse (dépression, anxiété, affect négatif, affect positif faible). Dans deux études, l'analyse factorielle de confirmation confirme l'existence de deux facteurs de perfectionnisme, désignés par les vocables perfectionnisme EC (perfectionnisme prescrit socialement / doute / souci de ne pas faire d'erreur / présentation de soi perfectionniste) et perfectionnisme orienté vers soi (critères personnels de perfection). Dans l'Étude Un, des étudiants d'université (136 hommes; 307 femmes) ont évalué leurs perfectionnisme, contrariétés, réponses au stress, soutien social perçu, dépression et anxiété. L'analyse factorielle de confirmation confirme l'utilité du modèle d'évaluation utilisé dans le cadre de cette étude. La modélisation de l'équation structurelle révèle que les contrariétés, les réponses d'évitement et le soutien social perçu sont des médiateurs uniques qui, ensemble, expliquent le rapport étroit qui existe entre le perfectionnisme EC et la détresse. Le perfectionnisme orienté vers soi est uniquement associé aux réponses actives au stress. Les contrariétés et le soutien social modèrent également le rapport entre les deux catégories de perfectionnisme et la détresse. L'Étude Deux a porté sur des évaluations des événements quotidiens, les réponses d'évitement au stress et le soutien social perçu comme médiateurs du rapport entre le perfectionnisme EC et l'affect négatif

élevé et l'affect positif faible. Des étudiants d'université (66 hommes; 104 femmes) ont rempli des questionnaires à la fin de leur journée, pendant sept jours d'affilée. Les influences de trait apparaissent dans les évaluations quotidiennes des événements, les différentes réponses au stress et le soutien social. L'analyse des facteurs de confirmation étaye la validité de construit des mesures du perfectionnisme et des activités quotidiennes globales. La modélisation de l'équation structurelle indique que les réponses d'évitement expliquent entièrement le rapport entre le perfectionnisme EC et l'affect négatif, alors que le soutien social perçu est le principal médiateur du rapport négatif entre le perfectionnisme EC et l'affect positif. De plus, l'auto-reproche et la faible efficacité perçue expliquent entièrement le rapport entre le perfectionnisme EC et les réponses d'évitement. Les conséquences théoriques et cliniques de cette recherche font ensuite l'objet d'une discussion.

Acknowledgements

I extend my appreciation to Dr. Yoshio Takane and Dr. Rhonda Amsel for their expert statistical assistance with Study One. I also thank Dr. David Zuroff and Dr. Gordon Flett and three anonymous reviewers for their helpful comments on earlier drafts of Study One. I gratefully acknowledge Virginia Fenwick for her efforts in the data collection for Study Two. I thank Jennifer Archambault, David D'Alessandro, and Veronika Huta for their helpful comments on earlier drafts of Study Two.

Several professors provided important contributions to this research. Dr. Mark Baldwin and Dr. Irv Binik provided useful feedback in the design of Study Two. I extend a great deal of appreciation to Dr. Kirk Blankstein for giving me the opportunity to work with his data for Study One. He provided helpful suggestions on the design and manuscript and was a wonderful source of support and encouragement. Most importantly, my advisor, Dr. David Zuroff, deserves special thanks for several reasons: he provided several thoughtful suggestions for improvement on both the design and manuscript of Study Two, he modeled standards of scientific rigor which challenged my scholarly abilities and made my graduate training a very fulfilling experience, he modeled for me sound professional skills, and he was instrumental in providing helpful input and freedom with all aspects of my professional development.

Finally, I must thank the many people who made my time at McGill an ultimately memorable and enjoyable personal experience which sustained my professional pursuits. Most of all, my family deserves special thanks for all the love, support, and encouragement they have given me throughout my life.

Manuscripts and Authorship[1]

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The thesis must include the following: (a) a table of contents; (b) an abstract in English and French; (c) an introduction which clearly states the rationale and objectives of the research; (d) a comprehensive review of the literature (in addition to that covered in the introduction to each paper); and (e) a final conclusion and summary. As manuscripts for publication are frequently very concise documents, where appropriate, additional material must be provided (e.g., in appendices) in sufficient detail to allow a clear and precise judgement to be made of the importance and originality of the research reported in the thesis.

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In general, when co-authored papers are included in a thesis, the candidate must have made a substantial contribution to all papers included in the thesis. In addition, the candidate is required to make an explicit statement in the thesis as to who contributed to such work and to what extent. This statement should appear in a single section entitled "Contribution of Authors" as a preface to the thesis. The supervisor must attest to the accuracy of this statement at the doctoral oral defence. Since the task of the examiners is made more difficult in these cases, it is in the candidate's interest to clearly specify the responsibilities of all the authors of the co-authored papers."

Contribution of Authors

The first study of this thesis was co-authored by myself and Kirk Blankstein, Jennifer Halsall, Meredith Williams, and Gary Winkworth. The data for Study One were collected at Erindale College, University of Toronto in the school years of 1995-1996 and 1996-1997 by Jennifer Halsall and Meredith Williams, under the supervision of Dr. Blankstein. Gary Winkworth assisted with data entry and file management. Dr. Blankstein supervised my expansion (e.g., personal standards perfectionism as an additional dimension of perfectionism, perceived social support as a third mediator/moderator mechanism) on the ideas and hypotheses contained in Dunkley and Blankstein (2000) and my choices on the subset of measures from his dataset to be used. The data were analyzed and interpreted by myself. The manuscript was written and revised by myself, with Dr. Blankstein providing advice and feedback and assisting with the revisions requested by the editor. This study has been published in Journal of Counseling Psychology, volume 47, pages 437-453. For Study Two, David Zuroff served in an advisory capacity during the formulation of the research questions, the development of the daily diary, the analysis of the data, and the writing and refinement of the final research report. Dr. Zuroff made suggestions for the analysis of the data and for numerous revisions of the manuscript. Dr. Blankstein provided feedback on earlier drafts of the manuscript. The manuscript was written and revised by myself, and the data were collected by myself, with the assistance of a research assistant, as noted. This manuscript has been submitted for publication.

Statement of Original Contribution

This research constitutes an original contribution in understanding the mechanisms or processes through which perfectionism has its ill effects. Study One is original in that it provides a comprehensive investigation of both the mediating and moderating roles of daily stress, coping, and social support, respectively, in the relation between perfectionism and distress. The study employs structural equation modeling as a data analytic technique to test the mediational hypotheses; hence, it allows complete and simultaneous testing of the mediational roles of daily stress, avoidant coping, active coping, and perceived social support, respectively, in the relationship between perfectionism and distress. Thus, Study One is the first perfectionism study to incorporate daily stress, coping, and social support in the same model. The study demonstrates the multidimensional nature of perfectionism in indicating that the relationship between evaluative concerns perfectionism and distress is mediated by daily stress, avoidant coping, and perceived social support, and also moderated by daily stress and perceived social support. On the other hand, personal standards perfectionism relates to distress primarily through the moderator functions of other variables, such as daily stress and perceived social support. Moreover, in supporting each of daily stress, coping strategies, and social support appraisals as unique, Study One gives a scientific basis for treatment interventions at the level of these mechanisms as an alternative to the difficult task of trying to change perfectionism in order to help these individuals feel less distressed. Study Two builds on Study One by illuminating which mediators (i.e., daily event stress, avoidant coping, perceived social support) might be specific to high negative

affect and which elements might be specific to an absence of positive affect for evaluative concerns perfectionists. Further, Study Two is the first study to empirically derive trait measures of stress, coping, and perceived social support by aggregating each person's responses across situations (i.e., days). This was important in that it enabled me to examine whether evaluative concerns and personal standards perfectionism are related to whatever individual differences exist in aggregated, situation-specific assessments of cognitive appraisals and coping and, further, whether the relations are comparable to those reported using retrospective, summary trait measures.

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General Introduction

Historically, perfectionism has most often been described as a negative attribute that can play a role in a wide range of psychological disturbances (Adler, 1956; Blatt, 1995; Freud, 1926/1959; Hamachek, 1978; Horney, 1950; Pacht, 1984). Indeed, perfectionism has been associated with a wide range of psychological problems, such as depression (Hewitt & Flett, 1991a), suicidal preoccupation (Adkins & Parker, 1996), anxiety (Alden, Bieling, & Wallace, 1994), obsessive-compulsive symptoms (Frost & Steketee, 1997; Rheaume, Freeston, Dugas, Letarte, & Ladouceur, 1995), social phobia (Juster, Heimberg, Frost, Holt, Mattia, & Faccenda, 1996), and eating disorders (Bastiani, Rao, Weltzin, & Kaye, 1995).

Perfectionism and the related personality dimension of self-criticism have emerged as important factors that have a negative impact on the treatment of depression. The National Institute of Mental Health (NIMH) Treatment of Depression Collaborative Research Program (TDCRP) was a multisite collaborative project that compared cognitive-behavioral therapy and interpersonal therapy with imipramine plus clinical management as a standard reference condition and placebo plus clinical management as a control condition. Pretreatment perfectionism, measured by the Dysfunctional Attitudes Scale (DAS; Weissman & Beck, 1978), predicted poorer outcome in all four treatment groups, as assessed by measures of depression, clinical functioning, and social adjustment (Blatt, Quinlan, Pilkonis, & Shea, 1995). In another study (Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998), these negative effects of pretreatment perfectionism were also found in a wide range of ratings by therapists, independent clinical evaluators, and

patients during treatment, at termination, and at 18-month follow-up. Similarly, depressed patients with high pretreatment levels of self-criticism (Blatt, 1974; Blatt, D'Afflitti, & Quinlan, 1976) tended to have a poorer treatment response to cognitive therapy (Rector, Bagby, Segal, Joffe, & Levitt, 2000).

The general purpose of my thesis research was to identify important underlying mechanisms in the relation between perfectionism and distress in hopes of addressing more directly what might constitute effective treatment interventions for highly perfectionistic individuals (see Blatt, 1995). More specifically, I examined the roles of daily stress, coping, and perceived social support in the relation between two different perfectionism dimensions and distress symptoms (i.e., depression, anxiety). Five sections follow. First, I will discuss conceptualizations of perfectionism and identify evaluative concerns perfectionism and personal standards perfectionism as two dimensions of perfectionism. Second, the distinction between evaluative concerns and personal standards perfectionism will be illuminated by examining their empirical relation to various characteristics and adjustment outcomes. Third, I will present stress, coping, and perceived social support as potential explanatory variables of the relation between perfectionism and distress. Fourth, I will review recent studies that have used path analysis or structural equation modeling (SEM) to test mediational hypotheses between distress and variables related to evaluative concerns perfectionism. I will also present the model of the current research. Finally, stress, coping, and perceived social support as potential moderators of the relation between perfectionism and distress will be discussed.

Evaluative Concerns Perfectionism Versus Personal Standards Perfectionism

Perfectionism has been conceptualized both as a unidimensional construct, with maladaptive implications, and as a multidimensional construct with a wide range of correlates. Burns (1980) proposed a unidimensional conceptualization of perfectionism referring to "those whose standards are beyond reach or reason, people who strain compulsively and unremittingly toward impossible goals and measure their own worth entirely in terms of productivity and accomplishment" (p. 34). He described perfectionists as having a dysfunctional cognitive style, characterized by dichotomous or "all or nothing" thinking and overgeneralization of failure. The Burns Perfectionism Scale (Burns, 1983), one of the earliest measures of perfectionism, was a 10-item scale derived from the DAS (Weissman & Beck, 1978) and was heavily weighted on personal standard setting and fear of mistakes. Similarly, Pacht (1984) concentrated on perfectionism as a pervasive neurotic style and extremely debilitating problem. However, Hamachek (1978) distinguished between "normal" and "neurotic" perfectionism. He suggested that normal perfectionism involved deriving pleasure from painstaking effort while establishing performance boundaries that take into account one's limitations and strengths. In contrast, neurotic perfectionism was characterized by demanding an unrealistic level of performance from oneself, an inability to feel satisfaction, and a fear of failure. This kind of perfectionism was thought to develop in environments of non-approval, inconsistent approval, or conditional positive approval.

In the past decade, research has demonstrated that perfectionism is a multidimensional construct with both adaptive and maladaptive correlates (see Blankstein

& Dunkley, in press; Blatt, 1995). Two groups of investigators, Hewitt and Flett (e.g., 1991b) and Frost and colleagues (e.g., Frost, Marten, Lahart, & Rosenblate, 1990), have independently conceptualized perfectionism from a multidimensional perspective. Hewitt and Flett (1991b) conceptualized perfectionism as a construct comprised of three components: self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism. Self-oriented perfectionism reflects a strong motivation to attain perfection and involves the setting of excessively high standards for oneself. Socially prescribed perfectionism involves the perception that others impose unrealistically high standards and expectations on oneself. It has been suggested that self-criticism and self-blame in these individuals might stem from the perception of being criticized by others and being unable to meet the imposed standards (Hewitt & Flett, 1991b, 1993). Other-oriented perfectionism involves holding unrealistically high standards for significant others. The conceptualization of Frost and his colleagues (Frost, Marten, Lahart, and Rosenblate, 1990) posited that perfectionism consists of several dimensions, including high personal standards, excessive concern over making mistakes, doubts about the quality of one's performance, the perception of parental expectations and parental criticism, and needs to be orderly and organized.

Two main dimensions of perfectionism, which I will refer to as personal standards (PS) and evaluative concerns (EC) perfectionism, can be derived from these independent conceptualizations. Personal standards perfectionism involves the setting of exacting high standards and goals for oneself. Frost et al. (1990) suggested that "the setting of and striving for high standards is certainly not in and of itself pathological" (p. 450). On the

other hand, evaluative concerns perfectionism involves overly critical evaluations of one's own behavior, an inability to derive satisfaction from performance, and the perception of other people as maintaining unrealistic standards and expectations of oneself. Evaluative concerns perfectionism is reminiscent of Blatt's (1974; Blatt, D'Afflitti, & Quinlan, 1976) self-criticism construct which refers to individuals who "engage in constant and harsh self-scrutiny and evaluation and have a chronic fear of being disapproved and criticized, and of losing the approval and acceptance of significant others" (Blatt & Zuroff, 1992, p. 528). Blatt's (1995) descriptions of self-criticism and perfectionism suggest that evaluative concerns perfectionists have a tendency to experience negative affect which is focused primarily on issues of self-definition, self-control, and self-worth. In addition, these individuals are inclined to remain relatively distant and isolated from intimate interactions with others. In contrast, dependent individuals, who are also prone to experience negative affect, desire to be loved, cared for, nurtured, and protected and are concerned primarily with issues of relatedness such as trust, caring, dependability, intimacy, and sexuality (see Blatt, 1995).

Factor analytic studies of the Multidimensional Perfectionism Scales developed by Hewitt and Flett (MPS; 1991b) and Frost and his colleagues (FMPS; Frost et al., 1990) have yielded two factors which correspond to these two dimensions of perfectionism. Frost, Heimberg, Holt, Mattia, and Neubauer (1993) factor analyzed the three MPS scales and the six FMPS subscales and identified two primary factors that they referred to as Maladaptive Evaluation Concerns and Positive Achievement Striving. The Maladaptive Evaluation Concerns factor reflected concerns over making mistakes, doubts about the

quality of one's actions, and concerns about other people's evaluation or criticism and was the dimension which was significantly related to depression and negative affect. The MPS socially prescribed perfectionism and FMPS concern over mistakes and doubts about actions scales of this component had the strongest relations with distress. On the other hand, the Positive Achievement Striving factor was correlated only with positive affect. MPS self-oriented perfectionism and FMPS personal standards, which are alike in measuring high standards and expectations for oneself, were the highest indicators of this factor and were the subscales most related to positive affect. Slaney, Ashby, and Trippi (1995) found a similar factor solution to that of Frost et al. (1993).

Further, Rice, Ashby, and Slaney (1998) did a confirmatory factor analysis of the FMPS and the Almost Perfect Scale (APS; Slaney & Johnson, 1992) and found support for two factors, which they labeled "maladaptive" and "adaptive" perfectionism. Maladaptive perfectionism was composed of measures tapping concern over mistakes, doubts about actions, difficulty in relationships, and anxiety and closely resembles evaluative concerns perfectionism. Adaptive perfectionism was most highly indicated by subscales measuring standards and order, organization, and personal standards and closely resembles personal standards perfectionism. In addition, studies suggest that self-criticism, as measured by the Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976), reflects evaluative concerns perfectionism to a greater extent than it reflects personal standards perfectionism. DEQ self-criticism has shown stronger correlations with the scales which tap evaluative concerns perfectionism (i.e., concern over mistakes, doubts about actions, socially prescribed perfectionism) than it has with the scales which

tap personal standards perfectionism (Dunkley & Blankstein, 2000; Enns & Cox, 1999; Frost et al., 1990).

Recently, a number of other investigators have made a distinction between positive/adaptive and negative/maladaptive components of perfectionism (e.g., Adkins & Parker, 1996; Slaney, Rice, & Ashby, in press; Terry-Short, Owens, Slade, & Dewey, 1995) which correspond to personal standards and evaluative concerns perfectionism, respectively. For example, Adkins and Parker (1996) suggested that the FMPS concern over mistakes and doubts about actions subscales reflected "passive" perfectionism, whereas the FMPS personal standards, parental expectations, parental criticism, and organization subscales reflected "active" perfectionism. In contrast to passive perfectionists whose perfectionism leads to procrastination, they suggested that active perfectionists "are those for whom perfectionistic strivings motivate rather than paralyze" (p. 539). In the revision of the Almost Perfect Scale (APS-R), Slaney et al. (in press) maintained that the standards and order dimensions reflected normal/adaptive perfectionism and developed a discrepancy subscale to capture what they referred to as "the defining negative dimension of perfectionism". They defined discrepancy as "the perception that one consistently fails to meet the high standards one has set for oneself." Suddarth (1996) conducted a factor analysis with the FMPS, MPS, and APS-R scales and found the discrepancy scale to load on one factor with concern over mistakes, doubts about actions, and socially prescribed perfectionism. The standards scale loaded on a second factor with personal standards and self-oriented perfectionism. Further, Braver (1996) found DEQ self-criticism to be more closely related to discrepancy than it was to

standards.

Evaluative Concerns Perfectionism Versus Personal Standards Perfectionism in Relation to Various Characteristics and Adjustment Outcomes

Locating the MPS, FMPS, and DEQ perfectionism measures within the comprehensive scheme of the Big Five factor model of personality (e.g., Costa & McCrae, 1992) also supports two different perfectionism dimensions. MPS socially prescribed perfectionism, FMPS concern over mistakes, FMPS doubts about actions, and DEQ self-criticism (Dunkley, Blankstein, & Flett, 1997; Zuroff, 1994) have shown the strongest association with neuroticism, whereas MPS self-oriented perfectionism and FMPS personal standards were most closely associated with the conscientiousness factor (Hill, McIntire, & Bacharach, 1997; Stumpf & Parker, 2000). Moreover, evaluative concerns perfectionism can be thought of as a specific form of neuroticism that is distinguishable from other forms of neuroticism, such as dependency (e.g., Blatt, 1974; Blatt, D'Afflitti, & Quinlan, 1976). For example, studies that have examined evaluative concerns perfectionism measures and dependency in relation to specific facets of neuroticism have indicated that evaluative concerns perfectionists are uniquely prone to feelings of guilt, sadness, hopelessness, and loneliness (Hill, McIntire, & Bacharach, 1997); in contrast, dependent individuals uniquely tend to feel prone to feelings of fear, worry, and nervousness and inability to cope with stress (Dunkley et al., 1997; Mongrain, 1993). Evaluative concerns perfectionism and dependency can be further diffentiated from neuroticism in terms of the interpersonal content that they reflect (Dunkley et al., 1997; Zuroff, 1994). For example, independently from their association with specific

neuroticism facets, Dunkley et al. (1997) found that self-critical individuals were formal, reserved, and distant in manner (low warmth), whereas, in contrast, dependent individuals easily formed attachments to others (warmth). Similarly, the MPS and FMPS evaluative concerns perfectionism measures have been associated with socially distant characteristics (Hill, Zrull, & Turlington, 1997), more worry about other peoples' reactions to their mistakes, and a greater desire to keep their mistakes a secret (Frost et al., 1995; Frost et al., 1997).

Research on the MPS socially prescribed perfectionism and self-oriented perfectionism subscales helps to further illuminate the distinction between evaluative concerns perfectionism and personal standards perfectionism, respectively. Hewitt and Flett (1991b) found socially prescribed perfectionism to be associated with several maladaptive characteristics, such as self-criticism, overgeneralization of failure, self- and other- blame, and fear of negative evaluation. Socially prescribed perfectionism has also been related to fears about failure, making mistakes, losing control, feeling angry, being criticized, and looking foolish to others (Blankstein, Flett, Hewitt, & Eng, 1993). Moreover, socially prescribed perfectionism has been associated with low self-efficacy and procrastination (Martin, Flett, Hewitt, Krames, & Szanto, 1996), low self-esteem (Flett, Hewitt, Blankstein, & O'Brien, 1991), lower levels of self-actualization (Flett, Hewitt, Blankstein, & Mosher, 1991), and maladaptive motivation and learning strategies (Mills & Blankstein, 2000). Additionally, in contrast to self-oriented perfectionism, socially prescribed perfectionism and the self-criticism factor of an abbreviated form of the DEQ (R-DEQ; Welkowitz, Lish, & Bond, 1985) have both been associated with

personality disorders in psychiatric populations, including the schizoid, avoidant, passive-aggressive, schizotypal, and borderline personality patterns (Hewitt & Flett, 1991b; Ouimette, Klein, Anderson, Riso, & Lizardi, 1994). In short, socially prescribed perfectionism has been related primarily to maladaptive characteristics and has lacked an association with adaptive qualities.

In contrast, self-oriented perfectionism has been associated with both adaptive and maladaptive aspects of functioning. Self-oriented perfectionism has been associated with adaptive characteristics in college populations, such as achievement striving (Hill, McIntire, & Bacharach, 1997), adaptive learning strategies (Mills & Blankstein, 2000), self-efficacy (Martin et al., 1996), and greater perceived personal control (Flett, Hewitt, Blankstein, & Mosher, 1995). Likewise, FMPS personal standards has been related to academic performance (E. J. Brown et al., 1999). On the other hand, self-oriented perfectionism has also been associated with maladaptive qualities, such as self-criticism, self-blame, narcissism (Hewitt & Flett, 1991b), overgeneralization of failure, ruminative thought (Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991), and fears about failure, making mistakes, losing control, and feeling angry (Blankstein et al., 1993).

The two dimensions of perfectionism also differ in their relation to distress outcomes, such as depression and anxiety. Evaluative concerns perfectionism variables (i.e., socially prescribed perfectionism, concern over mistakes, doubts about actions, self-criticism) have been associated with a broad range of psychological disturbances, including depression and anxiety (e.g., Flett, Hewitt, Blankstein, Solnik, & Van Brunschot, 1996; Frost et al., 1990; Hewitt & Flett, 1991b; Nietzel & Harris, 1991;

would explain why evaluative concerns perfectionism is consistently, and personal standards inconsistently, related to distress. Evaluative concerns perfectionists might experience chronically heightened levels of distress because they generate or instigate stress for themselves, typically cope in maladaptive ways, and tend to perceive that others are not available to them in times of stress. On the other hand, personal standards perfectionism might have maladaptive correlates (i.e., high daily stress) which are offset by adaptive correlates (e.g., active coping), which could be an explanation for the often negligible association between personal standards perfectionism variables and distress.

The role of perfectionism in the stress and coping process can be considered within the cognitive theory of psychological stress and coping developed by Lazarus and his colleagues (e.g., Lazarus & Folkman, 1984). The theory identifies two processes, cognitive appraisal and coping, as critical mediators in the relation between stressful person-environment relations and outcomes. There are two kinds of cognitive appraisal that an individual makes, primary and secondary appraisal. In primary appraisal, the individual evaluates whether an event has relevance to well-being. Both evaluative concerns perfectionists and personal standards perfectionists are believed to effect primary appraisal in ways that increase the frequency and intensity of stress. Perfectionists are assumed to perceive that they have much at stake with many stressors because they engage in stringent self-evaluations and all-or-none thinking which leads to low frustration tolerance. Moreover, these individuals generate or instigate stress for themselves by focusing on the negative aspects of events such that even ordinary events can be interpreted as major distressing stressors (Hewitt & Flett, 1993, 1996).

In secondary appraisal, the person evaluates both personal and social resources in terms of what can be done to overcome stress or prevent harm or to improve the chances of mastery (Lazarus & Folkman, 1984). Personal standards perfectionists are assumed to exhibit a mastery orientation (see Dweck & Sorich, 1999) in response to stressful situations, remaining focused and effective instead of doubting their competence. Thus, they will usually engage in problem-solving until a solution to the problem has been reached (Flett, Russo, & Hewitt, 1994). Moreover, the personal standards perfectionist's tendency to engage in active coping and less avoidant coping (e.g., denial, disengagement) might decrease the frequency and/or duration of the stressors these individuals experience (see Holahan, Moos, & Bonin, 1997). In short, while individuals who are personal standards perfectionists may experience increased levels of stress, the negative impact of possessing this maladaptive characteristic might be offset by the tendency of these individuals to engage in active, problem-focused coping (see also Flett et al., 1994).

In contrast, Flett, Hewitt, and colleagues (Flett, Hewitt, Blankstein et al., 1996; Flett et al., 1994) suggested that socially prescribed perfectionism involves high levels of helplessness at a dispositional level that undermine efforts at problem-focused coping. Further, they speculated that these individuals resemble the children with high levels of helplessness in research by Dweck and associates (see Dweck & Sorich, 1999, for a review). Specifically, evaluative concerns perfectionists are theorized to quickly blame and condemn their abilities and personal qualities, which they view as fixed and deep-seated. Evaluative concerns perfectionists become preoccupied with their deficiencies

and their inability to handle the stressful situation to the extent that they lack the motivation to engage in active coping with the situation, engaging instead in avoidance of threatening stimuli. Evaluative concerns perfectionists' self-blame and denigration also explains their perceptions of low efficacy and expectations of criticism from others in their dealing with the stressful situation. Further, evaluative concerns perfectionists fear that they cannot meet the standards of others and worry that they will be judged negatively in their handling of the situation, which also contributes to their use of avoidant coping (see Flett, Hewitt, Blankstein et al., 1996). The tendency to engage in avoidant coping might serve both to impede adaptive coping, thereby preventing movement beyond the distress associated with stressful situations (Carver, Scheier, & Weintraub, 1989), and to increase the severity of the stressors that a evaluative concerns perfectionist experiences (see Holahan, Moos, & Bonin, 1997).

In terms of secondary appraisal of social resources, evaluative concerns perfectionists are hypothesized to feel that any failure or mistake risks rejection and the loss of respect from others (Hewitt & Flett, 1991b; Frost et al., 1990; Frost et al., 1995; Frost et al., 1997). Thus, these individuals might believe they have <u>less</u> social support available to them in times of stress. Moreover, in often perceiving an absence of social support, evaluative concerns perfectionists lack an important resource to encourage more adaptive coping strategies and make stressful situations seem less overwhelming (see Holahan et al., 1997).

Empirical Findings on the Relations between Perfectionism and Daily Stress, Coping, and Perceived Social Support

Having presented the theory on perfectionism's relation to daily stress, coping, and perceived social support, I will now review empirical findings on the following questions: (1) is distress related to daily stress, coping, and perceived social support, respectively?; (2) what is the relation between evaluative concerns perfectionism and daily stress, coping, and perceived social support, respectively?; (3) what is the relation between personal standards perfectionism and daily stress, coping, and perceived social support, respectively?

Daily Stress, Coping, Perceived Social Support, and Distress. Daily stress or hassles, avoidant coping, active coping, and perceived social support have each been linked with individuals' levels of distress. Hassles, which can range in severity from minor annoyances (e.g., being late for class) to more upsetting pressures (e.g., getting into a serious argument with your boyfriend or girlfriend), have been associated with poor psychological adjustment (e.g., Braun, 1989; Kanner, Coyne, Schaefer, & Lazarus, 1981). Likewise, there is evidence that active, problem-focused coping styles can be beneficial (Endler & Parker, 1990; Epstein & Meier, 1989), and positive associations between disengaging or avoidance types of coping and distress are consistently found (see Carver & Scheier, 1994). Finally, there is consistent evidence for perceived social support's direct contribution to lower levels of symptomatology/distress (see Procidano & Smith, 1997).

Evaluative Concerns Perfectionism and Stress. Research suggests that evaluative

concerns perfectionism is associated with high levels of daily stress or hassles. In a sample of college students, Dunkley and Blankstein (2000) found socially prescribed perfectionism and self-criticism to be associated with each of academic, social, and general hassles assessed retrospectively over the past month. Similarly, socially prescribed perfectionism and self-criticism, as measured by the Self-Criticism-Dependency Scale (Barnett & Gotlib, 1988), has been related to both achievement and interpersonal hassles in a general psychiatric sample (Hewitt & Flett, 1993). Frost et al. (1997) had college participants high or low in concern over mistakes (CM) monitor their mistakes daily for five days. Ratings by independent judges indicated that high CM individuals did not report a greater number of mistakes nor were their mistakes different in quality from low CM individuals. However, high CM participants were more bothered by their mistakes and believed their mistakes to be more wrong and morally reprehensible than low CM participants.

Evaluative Concerns Perfectionism and Coping. Studies suggest that evaluative concerns perfectionism is associated with maladaptive coping tendencies. For example, Flett, Hewitt, Blankstein et al. (1996) administered the MPS and the Social Problem-Solving Inventory (SPSI; D'Zurilla & Nezu, 1990), a measure of self-perceived problem-solving ability, to college students. Socially prescribed perfectionism was related to a negative problem-solving orientation. Similarly, Flett et al. (1994) administered the MPS and the Constructive Thinking Inventory (CTI; Epstein & Meier, 1989) to college students. The CTI is a self-report measure of coping that assesses cognitive tendencies, including emotional coping, behavioral coping, and categorical thinking. Socially

prescribed perfectionism was negatively associated with behavioral coping and positive emotional coping and positively correlated with categorical thinking. The association between perfectionism and coping, as assessed by the Coping Inventory for Stressful Situations (Endler & Parker, 1990), has been examined in studies using clinical (Hewitt, Flett, & Endler, 1995) and college (Dunkley & Blankstein, 2000) samples. The CISS asks participants to indicate how frequently they engage in various activities when they encounter difficult, stressful, or upsetting situations. Dunkley and Blankstein (2000) found socially prescribed perfectionism and self-criticism to be significantly related to emotion-focused coping, which includes elements of wish fulfillment and self-blame, task-focused coping (negatively), and distraction. In Hewitt et al.'s (1995) study, socially prescribed perfectionism was related to emotion-focused coping in men and an absence of social diversion in women. Similarly, in the Frost et al. (1997) study, high CM participants ruminated more about their mistakes after their occurrence. Further, in another study (Fichman, Koestner, Zuroff, & Gordon, 1999), college women completed the DEQ and recorded their affect and use of specific mood-regulation strategies twice daily over a 2-week period. Self-criticism was related to ineffective mood management strategies (i.e., venting) which prolonged negative affect.

Evaluative Concerns Perfectionism and Social Support. There has been little research on evaluative concerns perfectionism's relation to social support, but the extant findings suggest that it is negatively related to perceived social support. Mongrain (1998) administered the DEQ and the Interpersonal Support Evaluation List (ISEL; S. Cohen, Mermelstein, Kamarck, & Hoberman, 1985), which assesses perceived availablility of

social support in different domains, to university students. The findings suggested that self-critical individuals have lower perceptions of social support and, more specifically, do not believe others view them highly, do not feel integrated within a social network, and cannot count on others for help. Additionally, self-critics also made fewer requests for support over a 21-day self-monitoring period. Moreover, socially prescribed perfectionism has been associated with higher levels of loneliness, shyness, fear of negative evaluation, and lower levels of social self-esteem (Flett, Hewitt, & De Rosa, 1996).

A number of studies have indicated that evaluative concerns perfectionists have more disturbed interpersonal interactions which might contribute to lower levels of perceived social support in these individuals. For example, Flett, Hewitt, Garshowitz, and Martin (1997) found socially prescribed perfectionism to be associated with a greater frequency of negative social interactions recalled over the past month. Further, a pair of laboratory studies (Mongrain, Vettese, Shuster, & Kendal, 1998; Zuroff & Duncan, 1999) videotaped college romantic couples as they attempted to resolve conflicts. Self-critical women were objectively rated as more hostile towards their partner during the task, and their partners were also rated as more hostile (Zuroff & Duncan, 1999) and less loving (Mongrain et al., 1998). Mongrain et al. (1998) also reported that self-critical individuals exhibited negative perceptual biases in interpreting social interactions. Vettese and Mongrain (2000) extended these findings by assessing the couples during an interaction in which they appraised their own and each others' performance on the previous conflict resolution task. Self-critical women communicated more negative statements about their

own and their partners' performance, and their partners responded with more negative feedback about the self-critic.

Personal Standards Perfectionism and Stress, Coping, and Perceived Social Support. Support for personal standards perfectionism's link with daily stress has been mixed. Hewitt and Flett (1993) found associations between self-oriented perfectionism and both achievement and interpersonal hassles in a general psychiatric sample. In contrast, self-oriented perfectionism was not related to academic, social, or general hassles in Dunkley and Blankstein's (2000) study with college students. Self-oriented perfectionism has been positively associated with both adaptive and maladaptive coping tendencies. Flett, Hewitt, Blankstein, and O'Brien (1991) found self-oriented perfectionism to be related to greater learned resourcefulness, as assessed by the Self-Control Schedule (Rosenbaum, 1980), in college students. Likewise, self-oriented perfectionism has been associated with positive problem-solving ability (Flett, Hewitt, Blankstein et al., 1996) and task-focused coping (Dunkley & Blankstein, 2000). Flett et al. (1994) found self-oriented perfectionism to be adaptive in that it was associated with positive behavioral coping, but also maladaptive in that it was related to a lack of self-acceptance in response to failure. Hewitt et al. (1995) also found self-oriented perfectionism to be maladaptive in that it was associated with emotion-focused coping in psychiatric patients. It is somewhat less clear whether personal standards perfectionism would have a relation with perceived social support because there has been little association between levels of self-set standards and poor psychosocial adjustment (Alden et al., 1994; Flett, Hewitt, & De Rosa, 1996). However, self-oriented perfectionism has

been associated with self-reported social skills, such as the ability to decode nonverbal messages and engage others in conversation (Flett, Hewitt, & De Rosa, 1996), and altruistic social attitudes (Hill, McIntire, & Bacharach, 1997). Thus, if anything, it seems that personal standards perfectionists have skills in building and sustaining relationships that could be positively associated with perceptions of available support (see Pierce, Lakey, Sarason, Sarason, & Joseph, 1997).

Structural Models Explaining the Relation between Perfectionism and Distress

The majority of previous articles have simply correlated perfectionism with variables thought to be related to the construct (e.g., dysphoria or coping). Recently, a number of studies using path analyses and structural equation modeling (SEM) have tested theoretical models which have addressed why evaluative concerns perfectionism is related to distress by testing mediational hypotheses. Following the guidelines proposed by Baron and Kenny (1986), three conditions must be met for a variable to function as a mediator. First, the independent variable (e.g., perfectionism) must be related to the mediator (e.g., stress). Second, the mediator variable must be related to the outcome variable (e.g., depression). Finally, a previously significant association between the independent variable and the outcome variable should significantly decrease when testing the mediated effect. When the association between the predictor variable and outcome variable is no longer significant controlling for the mediator variable, the relation is considered to be fully mediated. When the predictor variable is still related to the outcome variable when testing the mediated effect, a partially mediated model is indicated.

Path analyses and SEM allow simultaneous tests of hypothesized relations among perfectionism, mediator variables, and maladjustment. Chang (2000) used path analyses to test self-appraised life stress over the past month as a mediator between general perfectionism (which was assessed by summing all the FMPS subscales except for the Organization subscale) and both positive and negative psychological outcomes. Stress fully mediated the relation between perfectionism and life satisfaction and partially mediated the relation between perfectionism and negative affect and worry. Priel and Shahar (2000) also used path analyses and found that the association between self-criticism and increased depressive symptoms over nine weeks was partly explained by an increase in stressful events and decrease in social support for college students.

In contrast to path analyses, SEM incorporates latent factors (e.g., evaluative concerns perfectionism), which are composed of two or more correlated indicators (e.g., concern over mistakes, doubts about actions, socially prescribed perfectionism), that enable one to correct for measurement error in the mediators and provide a more accurate estimate of their effects (see Baron & Kenny, 1986). Rice et al. (1998) used SEM and found self-esteem to partially mediate the relation between maladaptive perfectionism and depression, which suggests that the relation between evaluative concerns perfectionism and distress is influenced by other variables. Dunkley and Blankstein (2000) used DEQ self-criticism, MPS socially prescribed perfectionism, and the solitude subscale of the Revised Sociotropy-Autonomy Scale (SAS-R; D. A. Clark & Beck, 1991) to indicate a "self-critical perfectionism" latent construct. The relation between self-critical perfectionism and distress (indicated by depressive, angry, and psychosomatic

symptoms) was fully mediated by maladaptive coping, which was most highly indicated by the emotion-focused coping subscale of the CISS (Endler & Parker, 1990).

The preceding discussion of mediators of the relation between evaluative concerns perfectionism and distress suggests that hassles, avoidant coping, active coping, and social support could each be unique mediators of the relation between this perfectionism dimension and distress. Nonetheless, evaluative concerns perfectionists might possess other distinct qualities (e.g., low self-esteem) that could result in its direct effect on distress after controlling for effects of the mediating variables. Thus, whether the relation between evaluative concerns perfectionism and distress was fully mediated (i.e., no direct effect of perfectionism on distress) or partially mediated (i.e., direct effect of perfectionism on distress) by hassles, avoidant coping, active coping, and/or social support was tested. I also examined the possibility that personal standards perfectionism has maladaptive aspects (i.e., hassles) which are offset by adaptive aspects (e.g., active coping, less avoidant coping, perceived social support) of functioning, which could be an explanation for the often negligible association between personal standards perfectionism variables and distress. I used SEM to perform complete and simultaneous tests of the hypothesized relations among perfectionism, hassles, avoidant and active coping, social support, and distress for each perfectionism dimension.

Interactive Models of the Relation between Perfectionism and Distress: Daily Stress, Coping, and Social Support as Moderators

In addition to examining the associations between perfectionism, hassles, coping, social support, and distress in structural models, I also tested the possibility that hassles,

coping, and social support moderate the link between personal standards and evaluative concerns perfectionism and distress. Recent studies have tested a diathesis-stress model that maintains that perfectionists who are experiencing high levels of stress will be vulnerable to depressive symptoms and maladjustment. Flett, Hewitt, Blankstein, and Mosher (1995) reported that both socially prescribed perfectionism and self-oriented perfectionism interacted with major life stress to predict higher levels of depressive symptoms in college students. As well, a relation was found between self-oriented perfectionism- but not socially prescribed perfectionism- and dysphoria three months later for students who had experienced a major life event. Conversely, Chang and Rand (2000) reported that socially prescribed perfectionism- but not self-oriented perfectionism- interacted with self-appraised life stress to predict psychological symptoms and hopelessness one month later in university students. Likewise, Lynd-Stevenson and Hearne (1999), consistent with Adkins and Parker (1996), assessed "passive" perfectionism using the FMPS concern over mistakes and doubts about actions subscales and "active" perfectionism using the FMPS personal standards subscale and other related measures. They found that passive perfectionism- but not active perfectionism- moderated the relation between stressful life events and depressive symptoms in university students. In sum, mixed support has been found for evaluative concerns perfectionism and personal standards perfectionism indicators interacting with stress to predict increases in maladjustment.

Hewitt and Flett (1993) suggested that specific dimensions of perfectionism interact with congruent life stress to predict depression. Specifically, they proposed that

self-oriented perfectionists should be particularly susceptible to achievement-related stress, whereas socially prescribed perfectionists should be most vulnerable to social stress. Hewitt and Flett (1993) examined this model with daily stressors in a depressed patient sample and a general psychiatric sample. Consistent with their hypotheses, self-oriented perfectionism interacted only with achievement stressors (e.g., exercise, workload) to predict depression in both samples. However, socially prescribed perfectionism was not consistently supported as a specific vulnerability factor, as it interacted with social stressors (e.g., children, intimacy) in Sample 1 and achievement stressors in Sample 2. In contrast, neither self-oriented perfectionism nor self-critical perfectionism interacted with academic or social hassles to predict distress in Dunkley and Blankstein's (2000) study. In a sample of current and former patients, Hewitt et al. (1996) examined whether dimensions of perfectionism interacted with congruent stress to predict depression over time. After controlling for initial depression levels, self-oriented perfectionism interacted only with achievement-related life events (e.g., unemployment) to predict depression four months later. Socially prescribed perfectionism did not interact with either achievement or social (e.g., death of a family member) life stressors to predict Time 2 depression. In short, more consistent support for specific dimensions of perfectionism interacting with congruent stressors has been obtained for self-oriented perfectionism than for socially prescribed perfectionism.

Other studies have tested self-regulation models (e.g., Baumeister, 1990), which posit that individuals with perfectionistic standards who typically employ maladaptive coping responses will be especially prone to maladjustment. In the Hewitt et al. (1995)

study, some support for these models was obtained as high levels of self-oriented perfectionism and emotion-oriented coping combined to predict unique variance in depressive symptoms in their clinical sample. As well, in another study (Flett, Hewitt, Blankstein, & O'Brien, 1991), socially prescribed perfectionistic college students characterized by low levels of learned resourcefulness were especially prone to depressive symptoms. Similarly, Martin et al. (1996) found that socially prescribed perfectionism combined with low self-efficacy was related to greater depression and health symptoms in college students. Relatedly, Rice et al. (1998) found a positive relation between maladaptive perfectionism and depression levels for individuals low in self-esteem.

In the past decade, there has been a growing interest in the interactive roles of social support and personality in life stress adjustment (see L. H. Cohen, Hettler, & Park, 1997). However, to our knowledge, no studies have examined the possibility that social support may buffer the impact of perfectionism on distress. Given that perfectionism is considered to be a stress-generating mechanism, it is reasonable to hypothesize that perfectionists with high levels of perceived social support may be less prone to experience maladjustment than perfectionists with low levels of perceived support.

Finally, examining triple interactions of stress by social support (or coping) by personality would address an important effect in stress-buffering models (see L. H. Cohen et al., 1997). I examined whether perfectionism and social support or coping combine to influence distress levels for individuals experiencing high levels of daily stress. In short, examination of daily stress, coping, and social support in moderator roles offers potential understanding of the mechanisms through which both personal standards and evaluative

concerns perfectionism influence distress.

Aims of the Present Research

In summary, I sought to address two kinds of questions about the nature of the relation between perfectionism and distress. First, high stress, maladaptive coping, and low perceived available social support were examined as possible explanations as to why evaluative concerns perfectionism is related to distress. I also examined the association of personal standards perfectionism with both adaptive (i.e. adaptive coping, high perceived social support) and maladaptive (i.e. high stress) aspects of functioning as possible explanations as to why this dimension is often negligibly associated with distress. Second, I examined the possibility that perfectionism, particularly personal standards perfectionism, is most related to distress when experienced in the context of high stress, maladaptive coping, and low perceived available social support.

These questions were addressed in two studies. In Study One, participants completed the MPS, FMPS, and retrospective, summary measures of hassles, coping, perceived social support, and distress (i.e., depression, anxiety). I used data from a large sample and randomly split the sample in half. The first half of the sample served as an initial test of the structural models so that I could cross-validate the findings with the second sample. Study Two was based on the final model of Study One and used many of the same measures, but (1) incorporated major methodological improvements and (2) used negative affect and positive affect as outcome variables rather than depression and anxiety. Specifically, participants completed the MPS, FMPS, as well as the DEQ, in a lab session and then completed questionnaires at the end of the day for seven consecutive

days to obtain situational measures of event stress, coping, and perceived social support. Each person's responses were aggregated across situations (i.e., days), thereby empirically deriving trait measures of stress, coping, and perceived social support. This enabled me to examine whether the relations found using aggregated, situation-specific assessments of cognitive appraisals and coping were comparable to those reported using retrospective, summary trait measures.

Journal of Counseling Psychology, 47, 437-453

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The Relation between Perfectionism and Distress:

Hassles, Coping, and Perceived Social Support as Mediators and Moderators

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Abstract

This study of university students (136 men; 307 women) examined the roles of hassles, avoidant and active coping, and perceived available social support in the relation between evaluative concerns and personal standards perfectionism and distress symptoms (i.e., depression, anxiety). Confirmatory factor analysis supported the measurement model used in this study. Structural equation modeling results indicated that hassles, avoidant coping, and perceived social support are each unique mediators which can fully explain the strong relation between evaluative concerns perfectionism and distress. Personal standards perfectionism had a unique association with active coping only. Hassles and social support also moderated the relation between both dimensions of perfectionism and distress. Clinical implications of distinguishing between evaluative concerns and personal standards perfectionism are discussed.

The Relation between Perfectionism and Distress: Hassles, Coping, and Perceived Social Support as Mediators and Moderators

Depression and anxiety have been identified as common problems for university students. In an extensive survey of student needs at a large urban university, over one third of the students reported a need for assistance with depression and anxiety (Bishop, Bauer, & Becker, 1998). Miller and Rice (1993) examined the presenting problem of students attending a university counseling center and found that 53% admitted that depression was troubling them and approximately 30% admitted problems with concentration, fears, and nervousness, respectively. Historically, perfectionism has most often been described as a negative attribute that can play a role in these psychological disturbances (Adler, 1956; Blatt, 1995; Freud, 1926/1959; Hamachek, 1978; Horney, 1950; Pacht, 1984). Indeed, perfectionism has been associated with a wide range of psychological problems, such as depression (Hewitt & Flett, 1991a), suicidal preoccupation (Adkins & Parker, 1996), anxiety (Alden, Bieling, & Wallace, 1994), obsessive-compulsive symptoms (Rheaume, Freeston, Dugas, Letarte, & Ladouceur, 1995), social phobia (Juster et al., 1996), and eating disorders (Garner, Olmstead, & Polivy, 1983). Furthermore, perfectionism has been identified as a difficult problem to treat and an important variable which may hinder effective treatment of a client's psychological symptoms (Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998). The general purpose of the present study was to identify important mechanisms in the relation between perfectionism and distress in hopes of addressing more directly what might constitute effective treatment interventions for highly perfectionistic individuals (see

Blatt, 1995). More specifically, we examined the roles of daily stress, coping, and perceived social support in the relation between two different perfectionism dimensions and distress symptoms (i.e., depression, anxiety).

Perfectionism as a Multidimensional Construct

In treating depression and anxiety symptomatology, counselors might carefully assess their clients' perfectionism to ascertain whether some components are problematic (Johnson & Slaney, 1996). In the past decade, numerous empirical investigations have studied perfectionism as a multidimensional construct with both adaptive and maladaptive aspects of functioning. Two main dimensions of perfectionism, which we will refer to as personal standards and evaluative concerns perfectionism, can be derived from the independent conceptualizations of perfectionism developed by Hewitt and Flett (e.g., 1991a, 1991b) and Frost and his colleagues (e.g., Frost, Marten, Lahart, & Rosenblate, 1990). Personal standards perfectionism involves the setting of exacting high standards and goals for oneself. The tendency of personal standards perfectionists to engage in stringent self-evaluations is hypothesized to result in the generation or instigation of stress in these individuals (Hewitt & Flett, 1993). However, these individuals are assumed to exhibit a mastery orientation (see Dweck & Leggett, 1988) in response to stressful situations and will usually engage in problem-solving until a solution to the problem has been reached (Flett, Russo, & Hewitt, 1994). Moreover, the personal standards perfectionist's tendency to engage in active coping and less avoidant coping (e.g., denial, disengagement) might decrease the frequency and/or duration of the stressors these individuals experience (see Holahan, Moos, & Bonin, 1997).

On the other hand, evaluative concerns perfectionism involves the perception of other people as exerting unrealistic standards and expectations on oneself which results in overly critical evaluations of one's own behavior and an inability to derive satisfaction from performance. Thus, evaluative concerns perfectionists are assumed to engage in all-or-none thinking and focus on the negative aspects of events such that even ordinary events might be interpreted as major distressing stressors (Hewitt & Flett, 1993). Additionally, evaluative concerns perfectionists are theorized to respond to stressful situations with a helplessness orientation (see Dweck & Leggett, 1988) and these individuals are thought to have lower perceived self-efficacy, perhaps about their inability to cope adequately or to the satisfaction of others, which becomes manifested as an avoidance coping style (Flett, Hewitt, Blankstein, Solnik, & Van Brunschot, 1996). Further, evaluative concerns perfectionists' disposition toward more avoidant coping and less active coping might increase the frequency and/or duration of the stressors they experience (see Holahan et al., 1997). Finally, evaluative concerns perfectionists are hypothesized to feel that any failure or mistake risks rejection and the loss of respect from others (Hewitt & Flett, 1991b; Frost et al., 1990; Frost, Turcotte, Heimberg, Mattia, Holt, & Hope, 1995). Thus, these individuals might believe they have less social support available to them in times of stress. Moreover, in often perceiving an absence of social support, evaluative concerns perfectionists lack an important resource to encourage more adaptive coping strategies and make stressful situations seem less overwhelming (see Holahan et al., 1997). In summary, evaluative concerns perfectionists have a tendency to experience negative affect which is focused primarily on issues of self-definition, self-

control, and self-worth. In addition, these individuals are inclined to remain relatively distant and isolated from intimate interactions with others. In contrast, other individuals who are prone to experience negative affect, for example dependent individuals, desire to be loved, cared for, nurtured, and protected and are concerned primarily with issues of relatedness such as trust, caring, dependability, intimacy, and sexuality (see Blatt, 1995).

Factor analytic studies of the Multidimensional Perfectionism Scales developed by Hewitt and Flett (MPS; 1991b) and Frost and his colleagues (FMPS; Frost et al., 1990) have yielded two factors which correspond to these two dimensions of perfectionism. Frost, Heimberg, Holt, Mattia, and Neubauer (1993) factor analyzed the two MPS scales and identified two primary factors which they referred to as Maladaptive Evaluative Concerns and Positive Achievement Striving. The Maladaptive Evaluative Concerns factor reflected concerns over making mistakes, doubts about the quality of one's actions, and concerns about other people's evaluation or criticism and was the dimension which was significantly related to depression and negative affect. The MPS socially prescribed perfectionism and FMPS concern over mistakes and doubts about actions scales of this component had the strongest relations with distress. On the other hand, the Positive Achievement Striving factor was correlated only with positive affect. MPS self-oriented perfectionism and FMPS personal standards, which are alike in measuring high standards and expectations for oneself, were the highest indicators of this factor and were the subscales most related to positive affect. Slaney, Ashby, and Trippi (1995) found a similar factor solution to that of Frost et al. (1993). Similarly, Rice, Ashby, and Slaney (1998) did a confirmatory factor analysis of the FMPS and the Almost Perfect Scale

(APS; Slaney & Johnson, 1992) and found support for two factors, which they labeled "maladaptive" and "adaptive" perfectionism. Maladaptive perfectionism was composed of measures tapping concern over mistakes, doubts about actions, difficulty in relationships, and anxiety and closely resembles evaluative concerns perfectionism. Adaptive perfectionism was most highly indicated by standards and order, organization, and personal standards and closely resembles personal standards perfectionism.

A Structural Model of the Relation between Perfectionism and Distress: Hassles, Coping, and Social Support as Mediators

The association between evaluative concerns perfectionism variables (i.e., socially prescribed perfectionism, concern over mistakes, doubts about actions) and a broad range of psychological disturbances, including depression and anxiety (e.g., Flett et al., 1996; Frost et al., 1990; Hewitt & Flett, 1991b; Stöber, 1998), indicates that this perfectionism dimension represents a nonspecific vulnerability factor to distress. Thus, although depression and anxiety can be distinguished phenomenologically and empirically, there is overlap between these constructs (e.g., Watson, Weber, Assenheimer, Clark, Strauss, & McCormick, 1995) and it is appropriate to examine the relation between evaluative concerns perfectionism and the shared component of depression and anxiety. Moreover, the strength and consistency with which associations between evaluative concerns perfectionism variables and distress symptoms are detected indicates the existence of mediating mechanisms which might explain how or why evaluative concerns perfectionism is related to distress (see Baron & Kenny, 1986).

We examined the possibility that evaluative concerns perfectionism is related to

four negative attributes, namely daily hassles, avoidant coping, less active coping, and less perceived available social support, which are unique mediators in the relation between evaluative concerns perfectionism and distress, as indicated by depression and anxiety symptoms. Empirically, socially prescribed perfectionism has been associated with both achievement and interpersonal stressors (Hewitt & Flett, 1993). As well, socially prescribed perfectionism has been associated with maladaptive coping tendencies, such as a negative problem-solving orientation (Flett, Hewitt, Blankstein et al., 1996), an absence of constructive thinking (Flett et al., 1994), and emotion-focused coping, which includes elements of wish fulfillment and self-blame (Hewitt, Flett, & Endler, 1995). Finally, while few studies have tested the association between perfectionism and perceived social support, socially prescribed perfectionism has been associated with higher levels of loneliness, shyness, fear of negative evaluation, lower levels of social self-esteem (Flett, Hewitt, & De Rosa, 1996), and a higher frequency of negative social interactions (Flett, Hewitt, Garshowitz, & Martin, 1997). Evaluative concerns perfectionism's apparent relation with hassles, avoidant coping, less active coping, and less perceived social support has implications for the tendency of these kinds of perfectionists to experience distress. Indeed, the experience of hassles, which can range in severity from minor annoyances (e.g., being late for class) to more upsetting minor pressures (e.g., getting into a serious argument with your boyfriend or girlfriend), has been associated with poor psychological adjustment (e.g., Braun, 1989; Kanner, Coyne, Schaefer, & Lazarus, 1981). Likewise, there is evidence that active, problem-focused coping styles can be beneficial (Endler & Parker, 1990; Epstein & Meier, 1989)

and positive associations between disengaging or avoidance types of coping and distress are consistently found (see Carver & Scheier, 1994). Finally, there is consistent evidence for perceived social support's direct contribution to symptomatology/distress (inverse relationship) (see Procidano & Smith, 1997).

There have been few studies in the perfectionism literature which have addressed why evaluative concerns perfectionism is related to distress by testing mediational hypotheses. That is, the majority of papers have simply correlated perfectionism with variables thought to be related to the construct (e.g., dysphoria, coping). A recent exception was Rice et al. (1998) who found self-esteem to partially mediate the relation between maladaptive perfectionism and depression (i.e., maladaptive perfectionism accounted for unique variance in depression controlling for the effects of self-esteem), which suggests that the relation between evaluative concerns perfectionism and distress is influenced by other variables. The above discussion on mediators of the relation between evaluative concerns perfectionism and distress suggests that hassles, avoidant coping, active coping, and social support could each be unique mediators of the relation between this perfectionism dimension and distress. Nonetheless, evaluative concerns perfectionists might possess other distinct qualities (e.g., low self-esteem) that could result in its direct effect on distress after controlling for effects of the mediating variables. Thus, whether the relation between evaluative concerns perfectionism and distress was fully mediated (i.e., no direct effect of perfectionism on distress) or partially mediated (i.e., direct effect of perfectionism on distress) by hassles, avoidant coping, active coping, and/or social support was tested. As well, we tested whether perceived available support

would have unique positive associations with adaptive coping (i.e., less avoidant coping, more active coping) and a unique negative relation with hassles, whether adaptive coping would have unique negative associations with hassles (e.g., Holahan et al., 1997), and whether active coping would have a unique inverse relation with avoidant coping (e.g., Carver, Scheier, & Weintraub, 1989).

We also examined the possibility that personal standards perfectionism has maladaptive aspects (i.e., hassles) which are offset by adaptive aspects (e.g., active coping, less avoidant coping, perceived social support) of functioning, which could be an explanation for the often negligible association between personal standards perfectionism variables (i.e. self-oriented perfectionism, personal standards) and distress (Flett, Hewitt, Blankstein, et al., 1996; Flett et al., 1997; Frost et al., 1990; Frost et al., 1993). Hewitt and Flett (1993) found associations between self-oriented perfectionism and both achievement and interpersonal hassles. However, self-oriented perfectionism has been positively associated with adaptive coping tendencies, such as greater learned resourcefulness (Flett, Hewitt, Blankstein, & O'Brien, 1991), positive problem-solving ability (Flett, Hewitt, Blankstein, et al., 1996), and constructive thinking (Flett et al., 1994), but also maladaptive coping strategies, such as emotion-focused coping (Hewitt et al., 1995) and a lack of self-acceptance in stressful situations (Flett et al., 1994). It is somewhat less clear whether personal standards perfectionism would have a relation with perceived social support since there has been little association between levels of self-set standards and poor psychosocial adjustment (Alden et al., 1994; Flett, Hewitt, & De Rosa, 1996). However, self-oriented perfectionism has been associated with self-reported

social skills, such as the ability to decode nonverbal messages and engage others in conversation (Flett, Hewitt, & De Rosa, 1996), and altruistic social attitudes (Hill, McIntire, & Bacharach, 1997). Thus, if anything, it seems that personal standards perfectionists have skills in building and sustaining relationships that could be positively associated with perceptions of available support (see Pierce, Lakey, Sarason, Sarason, & Joseph, 1997).

We used structural equation modeling (SEM) to perform complete and simultaneous tests of the hypothesized relations among perfectionism, hassles, avoidant and active coping, social support, and distress for each perfectionism dimension separately. Moreover, SEM is a recommended technique to test mediational hypotheses because it incorporates latent factors (e.g., evaluative concerns perfectionism), which are composed of two or more correlated predictors (e.g., concern over mistakes, doubts about actions, socially prescribed perfectionism), that enabled us to control for measurement error in the mediators and provide a more accurate estimate of their effects (see Baron & Kenny, 1986). We used data from a large sample and randomly split the sample in half. The first half of the sample served as an initial test of our structural models so that we could cross-validate the findings with the second sample.

Interactive Models of the Relation between Perfectionism and Distress: Hassles, Coping, and Social Support as Moderators

In addition to examining the associations between perfectionism, hassles, coping, social support, and distress in structural models, we also tested the possibility that hassles, coping, and social support moderate the link between personal standards and

evaluative concerns perfectionism and distress, respectively. This was particularly relevant to personal standards perfectionism because the often weak or negligible relation between personal standards perfectionism and distress (e.g., a relation holds for one subpopulation but not for another) warrants an examination to determine when the relation between personal standards perfectionism and distress is maximized or minimized (see Baron & Kenny, 1986). Indeed, a more complex relation between self-oriented perfectionism and distress, where other variables may moderate the association (e.g., stress, coping), has been suggested previously (Hewitt & Flett, 1993; Hewitt et al., 1995).

Recent studies have tested a diathesis-stress model which maintains that perfectionists who are experiencing high levels of stress will be vulnerable to depressive symptoms. Interactions have been found between self-oriented perfectionism and recent life stressors, particularly achievement-related stress, to predict increases in levels of depressive symptoms (Flett, Hewitt, Blankstein, & Mosher, 1995; Hewitt & Flett, 1993; Hewitt, Flett, & Ediger, 1996). On the other hand, evaluative concerns perfectionism measures (i.e. socially prescribed perfectionism, concern over mistakes, doubts about actions) combining with life stress to predict increases in depression symptomatology has received support in some studies (Flett, Hewitt, et al., 1995; Hewitt & Flett, 1993; Lynd-Stevenson & Hearne, 1999) but not in others (Hewitt et al., 1996).

Other studies have tested self-regulation models (e.g., Baumeister, 1990), which posit that individuals with perfectionistic standards who typically employ maladaptive coping responses will be especially prone to maladjustment. In the Hewitt et al. (1995)

study, some support for these models was obtained as self-oriented perfectionism interacted with emotion-oriented coping to predict unique variance in depressive symptoms. As well, in another study (Flett et al., 1991), socially prescribed perfectionists characterized by low learned resourcefulness were especially prone to depressive symptoms.

In the past decade approximately, there has been a growing interest in the interactive roles of social support and personality in life stress adjustment (see L. H. Cohen, Hettler, & Park, 1997). However, to our knowledge, no studies have examined the possibility that social support may buffer the impact of perfectionism on distress. Given that perfectionism is considered to be a stress-generating mechanism, it is reasonable to hypothesize that perfectionists with high levels of perceived social support may be less prone to experience maladjustment than perfectionists with low levels of perceived support.

Finally, we also examined an important effect in stress-buffering models, namely, a triple interaction of stress X social support (or coping) X personality (see L. H. Cohen et al., 1997). That is, we examined whether perfectionism and social support or coping combine to influence distress levels for individuals experiencing high levels of daily stress. In short, examination of daily stress, coping, and social support in moderator roles offers potential understanding of the mechanisms through which both personal standards and evaluative concerns perfectionism influence distress.

Aims of the Present Study

In summary, the present study sought to address two kinds of questions about the

nature of the relation between perfectionism and distress. First, this study examined high stress, maladaptive coping, and low perceived available social support as possible explanations as to why evaluative concerns perfectionism is related to distress. It also examined the association of personal standards perfectionism with both adaptive (i.e. adaptive coping, high perceived social support) and maladaptive (i.e. high stress) aspects of functioning as possible explanations as to why this dimension is often negligibly associated with distress. Second, this study examined the possibility that perfectionism, particularly personal standards perfectionism, is most related to distress when experienced in the context of high stress, maladaptive coping, and low perceived available social support.

Method

Participants

The sample consisted of 443 (136 men; 307 women) university students with a mean age of 20.43 years (S. D. = 4.07) enrolled in an undergraduate Introductory Psychology course at the University of Toronto at Mississauga. Over 90% of the participants were first year university students. Although specific information on ethnic and racial origin was not available, the University serves a multi-culturally diverse, primarily middle class, student population. Available information indicates that approximately 50% of students are White of primarily European descent. However, a relatively large proportion of students are of Chinese origin and East Indian descent. Smaller percentages of students list their ethnic or area of origin as African, South East Asian (e.g., Vietnamese), and Caribbean or South American. Native Canadians are

under-represented. Participants voluntarily completed a battery of questionnaires in a single session for course credit.

Procedure

Participants were asked to complete a package of questionnaires which included measures of perfectionism, coping, daily stress, perceived social support, and current distress symptoms. The relevant measures were presented in random order and were intermixed with other measures that were not the focus of the present study. Participants individually completed the measures in small group sessions that lasted 1.5 to 2 hours.

Measures

Evaluative Concerns and Personal Standards Perfectionism. The measures of evaluative concerns and personal standards perfectionism were selected from the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991b) and the Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990). The MPS (Hewitt & Flett, 1991b) was used to assess socially prescribed (15 items; e.g., "People expect nothing less than perfection from me") and self-oriented (15 items; e.g., "I set very high standards for myself") perfectionism. Internal reliability estimates for these distinct but correlated subscales have ranged from .86 to .87, while test-retest reliability coefficients have ranged from .75 to .88 (Hewitt & Flett, 1991b). Coefficient alphas in the present study were .84 and .88 for socially prescribed and self-oriented perfectionism, respectively. As well, studies in both college and clinical populations have suggested adequate validity of the MPS subscales, as they have been related in hypothesized directions to other measures of self- and socially related constructs (Hewitt & Flett,

1991b).

The FMPS (Frost et al., 1990) was used to measure concern over mistakes (9 items; e.g., "People will think less of me if I make a mistake"), personal standards (7 items; e.g., "If I do not set the highest standards for myself, I am likely to end up a second-rate person"), and doubts about actions (4 items; "It takes me a long time to do something right"). Internal consistency estimates of these scales have ranged from .77 to .88 (e.g., Frost et al., 1990) and, in the present study, were .87, .71, and .77 for concern over mistakes, doubts about actions, and personal standards, respectively. The FMPS scales have been related in expected directions to other perfectionism measures and measures of psychological adjustment in university student samples (e.g., Frost et al., 1993).

As we did for all our latent constructs in this study, we selected the relevant perfectionism subscales to represent personal standards and evaluative concerns perfectionism, respectively, in a way that would allow the most parsimonious and unambiguous assignment of meaning to the constructs (see Anderson & Gerbing, 1988). The MPS self-oriented perfectionism and FMPS personal standards scales have similar item content which focuses on personal standards and goals (see Frost et al., 1993) and were used to represent personal standards perfectionism. The MPS socially prescribed perfectionism and FMPS concern over mistakes and doubts about actions scales reflect maladaptive evaluative concerns and have been the perfectionism subscales most strongly associated with depression and anxiety (e.g., Frost et al., 1993; Hewitt & Flett, 1991b; Stöber, 1998) and, thus, were used as the measures of evaluative concerns perfectionism.

Coping. We selected measures to represent avoidant and active coping from the COPE Inventory (COPE; Carver et al., 1989). The COPE is a 60-item inventory which measures a wide range of dispositional coping tendencies. Carver et al. (1989) performed a second-order factor analysis which identified four factors which reflected active coping, seeking social support, denial and disengagement, and acceptance and reinterpretation. We used two of these groups of dispositional coping tendencies from the COPE in our analyses: one group which indicated active, task-engaged coping (i.e., active coping, planning, suppression of competing activities) and another group which reflected avoidant coping (i.e., denial, behavioral disengagement, mental disengagement) (see Carver et al., 1989). These scales of the COPE have moderate internal consistencies which have ranged from .62 to .80, with only the mental disengagement scale having a low reliability (.45). In the present study, the alpha coefficients of behavioral disengagement, denial, planning, and suppression of competing activities were .78, .75, .76, and .62, respectively, with the mental disengagement (.49) and active coping (.53) scales having low reliabilities. However, these low coefficients were less problematic for the present study because each construct in all analyses had multiple indicators and, particularly for the SEM analyses, potential complications of measurement error and correlated measurement error were built directly into the model (see Baron & Kenny, 1986). Convergent and discriminant validity for the COPE scales in university student samples has been indicated in predicted relations with other measures of coping and coping-related personality constructs (Carver et al., 1989).

Social Support. Scales from the Social Provisions Scale (SPS; Cutrona & Russell,

students has been obtained in relation to measures of adaptational outcomes, outcome expectancies, and action tendencies (Flett, Blankstein, & Martin, 1995).

Distress. The scales of the Mood and Anxiety Symptom Questionnaire (MASQ; Watson & Clark, 1991) Short Form were used as the measures of distress. The MASQ-Short Form is a 62-item scale which consists of four scales: two scales, general distress: depressive symptoms (12 items) and general distress: anxious symptoms (11 items), contain symptoms that should be relatively nonspecific, while the other two scales, anhedonic depression (22 items) and anxious arousal (17 items), contain symptoms that should be relatively specific to depression and anxiety, respectively. Internal consistency coefficients have ranged from .78 to .93 (Watson et al., 1995) and, in the present study, were .84, .93, .89, and .79 for general distress: anxious symptoms, general distress: depressive symptoms, anxious arousal, and anhedonic depression, respectively. Excellent convergent validity with other measures of depression and anxiety has been supported in university samples (Watson et al., 1995). Furthermore, the anhedonic depression and anxious arousal scales differentiated depression and anxiety without seriously compromising convergent validity (Watson et al., 1995). Thus, given that we were interested in the relation between perfectionism, as a nonspecific vulnerability factor, and what is shared between depression and anxiety, we used all four subscales of the MASQ as indicators of distress.

Results

Descriptive Statistics

Table 1 presents the means and standard deviations for the combined sample for

all the measures used in the present study. The sample was randomly split into two halves. The first sample of 221 participants (65 men, 156 women) was used to assess the adequacy of the fit of the measurement and structural models, while the second sample of 222 participants (71 men, 151 women) was used to cross-validate the findings from the first sample.

Insert Table 1 About Here

Measurement Model

Anderson and Gerbing (1988) argued for a two-step approach to structural equation modeling where the measurement model should be tested and, if necessary, respecified before testing the structural model. Model testing was performed using AMOS (Arbuckle, 1997), which uses the maximum likelihood (ML) estimation method to examine the fit of models to their respective observed variance-covariance matrices. Consistent with Hoyle and Panter's (1995) recommendations, we considered multiple indexes of fit for evaluating our measurement and structural models. First, the chi-square test was used as an absolute fit index to indicate the overall fit of the predicted model to the observed covariance matrix. We considered the ratio of the chi-square value to the degrees of freedom in the model, with ratios in the range of 2 to 1 suggesting better fitting models (Carmines & McIver, 1981). A second absolute index of fit reported was the goodness-of-fit index (GFI; Jöreskog & Sörbom, 1984) which is analogous to R^2 in multiple regression, with values closer to one indicating better fitting models. We also

considered incremental fit indexes which assess the degree to which the predicted model is superior to the "null" or independence model. We reported the incremental fit index (IFI; Bollen, 1989) as a type-2 incremental fit index and the comparative fit index (CFI; Bentler, 1990) as a type-3 incremental fit index based on a noncentral chi-square distribution, with values closer to one indicating better fitting models.

Confirmatory Factor Analysis (CFA) was used to test the measurement model. There were seven latent factors, each with two or more indicators, in the model: evaluative concerns (EC) and personal standards (PS) perfectionism, avoidant and active coping, hassles, perceived social support, and distress. Watson, Clark, Weber, Assenheimer, Strauss, and McCormick (1995) noted that the individual item loadings of the anxious arousal and general distress: anxious symptoms scales of the MASQ suggest some refinements and modifications to improve the convergent and discriminant validity of these scales in particular. Indeed, prior SEM analyses using this measure with an independent sample supported a correlation between the residual error terms of these anxiety scales. Thus, a correlation between the residual error terms of the anxiety subscales was specified a priori in all measurement and structural models involving the distress latent variable and was found to be .67 in sample 1 and .71 in sample 2. CFA was used to test the posited relations of the observed variables to their respective underlying constructs, with the constructs allowed to intercorrelate freely. This model was examined in Sample 1 and resulted in the following acceptable indexes of fit: Chi-square (167, N = 221) = 389.29, $p < .001$; Chi-square / df = 2.33; GFI = .87; IFI = .90; CFI = .90.

measurement model.

Insert Table 2 About Here

Structural Model

The structural model specified the hypothesized causal relations among the latent variables. First, we needed to test our hypothesized relations for each perfectionism dimension separate of the influence of the other perfectionism dimension. That is, inspecting Table 2, EC and PS perfectionism had different unpartialled correlations with certain outcomes (i.e., social support, avoidant coping) to the extent that, had partialled correlations been estimated between these variables, they would have been enhanced significantly due to suppressor effects (see J. Cohen & Cohen, 1983, pp. 94-95). More specifically, in sample 1, the zero-order (unpartialled) correlation between PS perfectionism and social support (.00) was less than the magnitude of the product of the correlation between EC perfectionism and PS perfectionism and the correlation between EC perfectionism and social support (.50 x -.48 = |.24|). The same was true concerning the relations among PS and EC perfectionism and avoidant coping. Thus, the relation between PS and EC perfectionism, respectively, and each of social support and avoidant coping would have been enhanced, and might have been of opposite sign than the zero-order correlation, when the irrelevant variance related to the other perfectionism factor was removed. Therefore, in order to perform strict tests of the hypothesized relations for each perfectionism dimension, estimation of the structural model (i.e., all seven latent

variables in the model) was made more practical by testing structural submodels (i.e., six latent variables in the model) for each perfectionism dimension separately and eliminating the non-significant paths from these submodels (see Newcomb, 1990). That is, we established and cross-validated models which fit the data well for each perfectionism dimension separately. We then included both perfectionism latent variables into the same model and estimated only the significant paths of their respective submodels to see which paths remained significant controlling for the influence of the other perfectionism variable. Figure 1 contains the full number of hypothesized relations for each submodel as follows: 1) perfectionism (EC or PS) will be linked to each of avoidant coping, active coping, perceived social support, hassles, and distress; 2) perceived social support will be linked to each of avoidant coping, active coping, hassles, and distress; 3) active coping will be linked to each of avoidant coping, hassles, and distress; 4) avoidant coping will be linked to both hassles and distress; and 5) hassles will be linked to distress.

Insert Figure 1 About Here

Testing Competing Models. Mediational hypotheses were tested through a series of sequential comparisons between nested, competing models (see Anderson & Gerbing, 1988). Specifically, we wanted to see whether the relation between perfectionism, particularly evaluative concerns perfectionism, and distress was fully or partially mediated by other variables (i.e., hassles, coping, social support). We estimated a series

IFI = .91; CFI = .91, AIC = 433.95, BIC = 776.45. However, comparing Model 1 with the fully mediated Model 2, where the EC perfectionism to distress parameter estimate was set to zero, showed no significant difference according to the chi-square difference test, Chi-square$_{diff}$ (1, N = 221) = 1.53, and AIC and BIC of Model 1 were not smaller than AIC (433.48) and BIC (769.63) of Model 2. Further, the more constrained fully mediated Model 3 eliminated the active coping to distress path and did not result in a significantly poorer fit to the data from Model 2. Finally, Model 4 represented the most constrained fully mediated model, where the direct path from, alternatively, hassles (Model 4a), avoidant coping (Model 4b), or social support (Model 4c) to distress was also set to zero, and was compared to Model 3. Testing the different versions of Model 4 resulted in a significantly poorer fit to the data from Model 3, as indicated by the significant chi-square difference and AIC and BIC values which tended to be larger in Model 4. There was a lack of consensus with the comparison of Model 3 to Model 4b which constrained the path from avoidant coping to distress to be zero, as the BIC value of Model 4b (758.59) was somewhat smaller than Model 3's BIC value (761.33). However, BIC has a greater tendency to pick parsimonious models, relative to AIC and the other parsimony-adjusted fit indexes (Arbuckle, 1997, p. 561). Thus, although obtaining a larger BIC value for Model 4b would have provided additional assurance that there was a difference between models, the significant chi-square difference and larger AIC value of Model 4b were viewed as sufficient indicators to favor Model 3 in this case as well. Therefore, since Model 3, with the relation between EC perfectionism and distress fully mediated by avoidant coping, hassles, and perceived social support, is more

parsimonious than Models 1 and 2 and fit the data better than Model 4, it was selected as the best model.

Insert Table 3 About Here

Next, on the basis of the results of Wald tests, all paths that did not contribute significantly to Model 3 were removed individually from the model and the model was re-estimated each time. This resulted in the deletion of the regression paths from social support to avoidant coping, active coping to avoidant coping, EC perfectionism to active coping, active coping to hassles, and social support to hassles, respectively. Model 3 was re-estimated with these paths deleted and resulted in the following acceptable fit indexes: Chi-square (143, N = 221) = 328.93, $p < .001$, Chi-square / df = 2.40; GFI = .87, IFI = .91, CFI = .91, AIC = 422.93, BIC = 721.03. Finally, we used the second random sample to cross-validate the final structural model derived from sample 1. Using a multiple groups approach, the results of the structural model (i.e., factor loadings, variances, covariances, regression coefficients, residuals) were constrained to be equal across groups and resulted in a reasonable fit to the data, Chi-square (333, N = 443) = 693.48, $p < .001$, Chi-square / df = 2.08; GFI = .86, IFI = .92, CFI = .92. In order to provide additional assurance that the parameter estimates did not differ between groups, an alternative model where parameter estimates were freely estimated between groups was examined and resulted in these fit indexes, Chi-square (286, N = 443) = 629.93, $p < .001$, Chi-square / df = 2.20; GFI = .87, IFI = .92, CFI = .92. The acceptable fit indexes of the invariant

model and the non-significant difference between the invariant model and the freely estimated model, Chi-square$_{diff}$ (47, N = 443) = 63.55, ns, provided support for the cross-validation of the EC perfectionism structural model.

Evaluative Concerns and Personal Standards Perfectionism in the Same Structural Model. The exact sequence of structural model analyses that were performed with the EC perfectionism dimension were repeated using the personal standards perfectionism dimension instead as the perfectionism latent variable in the model (see Figure 1). The first random sample was used to establish the best-fitting, most parsimonious PS perfectionism structural model, Chi-square (126, N = 221) = 276.31, $p < .001$, Chi-square / df = 2.19; GFI = .89, IFI = .92, CFI = .92, and the second sample was used to cross-validate the structural equation modeling results from the first sample. As could be expected from inspection of the zero-order correlations (Table 2), PS perfectionism was uniquely positively associated with only hassles and active coping.

Finally, a structural model with both perfectionism dimensions was tested on the combined sample. As non-significant paths had been eliminated and good fitting models obtained for each perfectionism dimension separately, the purpose of these analyses was to see which significant paths in the EC and PS perfectionism models remained significant controlling for the influence of the other perfectionism dimension. Moreover, as discussed earlier, this model did not estimate the paths from PS perfectionism to social support and avoidant coping, respectively, which would have become significant due to suppressor effects. All significant paths found for each perfectionism dimension separately were estimated in this model and the EC and PS perfectionism factors were

permitted to freely correlate. All of the significant paths obtained when the EC perfectionism factor was run by itself in the model remained significant with PS perfectionism in the model. However, only PS perfectionism's path with active coping was unique controlling for the influence of EC perfectionism. The deletion of the non-significant PS perfectionism to hassles and social support to avoidant coping paths resulted in the following adequate fit indexes of the final structural model: Chi-square (178, N = 443) = 624.26, $p < .001$, Chi-square / df = 3.51; GFI = .88, IFI = .90, CFI = .90.

Figure 2 presents the significant standardized parameter estimates of the final structural model. The residual arrows indicate the proportion of variance in each endogenous latent variable unaccounted for by other variables in the model. The results are most easily grasped by referring to Figure 2 and considering the paths leading from evaluative concerns perfectionism to distress. The results provide clear support for a fully mediated model to explain the relation between evaluative concerns perfectionism and distress. That is, evaluative concerns perfectionism was associated with hassles, avoidant coping, and perceived social support, respectively, which were each uniquely associated with distress. Moreover, the explanatory power of the model was not reduced by deleting the evaluative concerns perfectionism to distress path from the model when testing the mediated effects (see Baron & Kenny, 1986). Additionally, personal standards perfectionism and perceived social support uniquely positively predicted active coping and avoidant coping had a unique positive association with hassles.

Insert Figure 2 About Here

Tests of Moderator Hypotheses

A series of hierarchical multiple regression analyses were performed to see whether various moderator hypotheses could account for unique variance in distress scores over and above the variance predicted by the mediational model. A problem in interaction analyses is the difficulty in detecting moderator effects, especially higher order interaction effects, due to the high levels of measurement error typically contained in product terms (see McClelland & Judd, 1993). Thus, to counteract this problem, we maximized the statistical power of the test by performing these analyses on the combined sample (see Jaccard, Turrisi, and Wan, 1990). However, in order to test for the replicability of significant moderator effects, we also tested the interactions separately for each subsample. All measured variables were standardized and the factor scores of the indicator variables to their latent variables were used to form predictor variables, respectively, that were used for the analyses. In all analyses, distress was the dependent variable and EC and PS perfectionism, avoidant and active coping, perceived social support, and hassles were all in a predictor block entered first in the regression equation; thus, the main effects of all the predictor variables were controlled before testing interactions. Table 4 shows that these variables combined to account for a significant 38% of the variance in distress scores, F change $(6, 436) = 44.40$, $p < .001$.

Insert Table 4 About Here

Two-Way Interactions. Each perfectionism dimension was combined into interaction terms with hassles, avoidant coping, active coping, and perceived social support, respectively, as additional predictors of distress. Thus, eight two-way interactions were tested controlling for the main effects of all the predictor variables. Each interaction term was initially tested by itself. This is the procedure employed to evaluate moderator hypotheses by Hewitt, Flett, and their colleagues (e.g., Hewitt et al., 1996) and involves an incremental partitioning of variance (see Cohen & Cohen, 1983). However, when a number of interaction terms are highly interrelated, other researchers (e.g., Lynd-Stevenson & Hearne, 1999; Metalsky & Joiner, 1992) have recommended testing the effect of each interaction term both separately and controlling for the effects of the other interaction terms. Thus, we also combined all eight interaction terms into the second block to assess the unique contributions of each interaction term in predicting distress controlling for the other seven interactions terms.

Analyzing each interaction term separately, Table 4 shows that hassles was found to interact with both EC perfectionism, F change $(1, 435) = 9.77$, $p < .01$, and PS perfectionism, F change $(1, 435) = 4.91$, $p < .05$, to predict 1% of unique variance in distress scores. Following recommendations by Jaccard et al. (1990), significant interactions were interpreted by calculating simple slopes for each level of the independent variables, which were defined as one standard deviation above or below the

mean for high and low levels, respectively. As indicated by Figure 3, there was a significant relation between hassles and distress for individuals high in EC perfectionism (slope = 0.37, $t = 6.19$, $p < .001$) as well as for individuals high in PS perfectionism (slope = 0.33, $t = 5.69$, $p < .001$). However, there was also a significant but weaker relation between hassles and distress for both individuals low in EC perfectionism (slope = 0.17, $t = 2.95$, $p < .01$) and individuals low in PS perfectionism (slope = 0.18, $t = 3.03$, $p < .01$).

Insert Figure 3 About Here

Analyzing each interaction term separately, Table 4 shows that social support was also found to interact with both EC perfectionism, F change (1, 435) = 12.98, $p < .001$, and PS perfectionism, F change (1, 435) = 7.61, $p < .01$, to predict 2 and 1%, respectively, of unique variance in distress scores. Figure 4 shows that there was a significant decrease in distress levels as social support proceeded from low to high levels for both EC perfectionists (slope = -0.30, $t = -5.88$, $p < .001$) and PS perfectionists (slope = -0.28, $t = -5.30$, $p < .001$). None of the interactions between perfectionism and avoidant or active coping predicting distress were significant. In short, considering experimentwise error, a respectable four out of eight two-way interactions tested on the combined sample were significant. However, it should be noted that the EC perfectionism and hassles interaction effect was the only one of these effects which replicated across the subsamples. Finally, entering all eight two-way interaction terms in

the second predictor block accounted for a significant 3% of additional variance in distress scores for the combined sample, F change (8, 428) = 2.76, $p < .01$. Furthermore, as could be expected when the interaction terms are highly interrelated, the only unique predictor in the block was the EC perfectionism and social support interaction term, F (1, 428) = 4.38, $p < .05$.

Insert Figure 4 About Here

Three-way Interactions. A series of three-way interactions were tested to examine whether perfectionism in the context of high stress interacts with coping and/or perceived social support to uniquely predict distress. Thus, each perfectionism dimension was combined into interaction terms with hassles and either avoidant coping, active coping, or perceived social support as additional predictors of distress. Each three-way interaction was initially tested by itself in a third block, after controlling for the main effects of all predictor variables and the three two-way interaction terms which composed each three-way interaction. Out of the six three-way interactions tested separately on the combined sample, as shown in Table 4, the PS perfectionism by hassles by social support interaction was the only interaction to predict unique variance (1%) in distress scores, F change (1, 432) = 6.27, $p < .05$. Figure 5 shows that for PS perfectionists experiencing many hassles, there was a significant decrease in distress as social support levels increased from low to high (slope = -0.37, $t = -5.45$, $p < .001$). However, it should be noted that this interaction effect was not replicated in the separate analyses of both

subsamples. Finally, a third predictor block containing all six three-way interaction terms was entered into the combined sample regression equation after the first block of main effects and second block of all two-way interactions had been entered. The presence of several non-significant three-way interactions (as found in the preceding analyses) weakened the predictive power of this third block and, thus, it was not surprising that the additional variance accounted for by this block in predicting distress scores was nonsignificant (1%), F change (6, 419) = 1.63, ns, although the personal standards perfectionism by social support by hassles interaction term remained significant within the block, F (1, 419) = 5.60, $p < .05$.

Insert Figure 5 About Here

Discussion

The present study replicated past findings (e.g., Frost et al., 1993; Slaney et al., 1995) and supported the existence of two different dimensions of perfectionism. Personal standards perfectionism appears to describe people who set high standards and goals for the self. On the other hand, evaluative concerns perfectionism involves critical evaluation tendencies and these individuals are concerned about other people's evaluation or criticism, overly concerned about making mistakes, and doubting their actions. It has been the evaluative concerns dimension of perfectionism which has received the most attention by theorists (e.g., Blatt, 1995; Pacht, 1984) and has been most strongly associated with psychopathology (e.g., Frost et al., 1993). In addition, evaluative

concerns perfectionists can be distinguished from other individuals who tend to experience distress, such as individuals preoccupied with interpersonal relatedness and issues of trust, caring, dependability, intimacy, and sexuality (see Blatt, 1995). The main purpose of the present study was to examine potential mechanisms in the relation between perfectionism and distress in an effort to address more directly what might constitute effective treatment for perfectionistic individuals (see Blatt, 1995).

Hassles, Avoidant Coping, and Social Support as Mediators in the Relation between Perfectionism and Distress

We tested and cross-validated a mediational model, derived from prior theory and research, that posited hassles, coping, and perceived available social support as the key mechanisms in the relation between evaluative concerns perfectionism and distress, as indicated by depression and anxiety measures. Our use of SEM allowed us to test more complex models with several mediating variables while controlling for measurement error, as each variable in the model had multiple indicators (see Baron & Kenny, 1986). Hassles, avoidant coping, and perceived social support were all supported as unique mediators which fully explained the relation between evaluative concerns perfectionism and distress. That is, evaluative concerns perfectionism was associated with each of hassles, avoidant coping, and social support which, in turn, were associated with distress, respectively, controlling for the influence on distress of the other variables in the model. Moreover, a direct relation between evaluative concerns perfectionism and distress did not significantly add to the explanatory power of the model predicting distress beyond hassles, avoidant coping, and perceived social support (see Baron & Kenny, 1986). In

other words, evaluative concerns perfectionism did not possess other, unaccounted for, maladaptive components (e.g., low self-esteem) which resulted in a unique relation between this perfectionism dimension and distress.

Our SEM results with the evaluative concerns perfectionism dimension can be interpreted within the cognitive theory of psychological stress and coping developed by Lazarus and his colleagues (e.g., Lazarus & Folkman, 1984). The theory identifies two processes, cognitive appraisal and coping, as critical mediators in the relation between stressful person-environment relations and outcomes. There are two kinds of cognitive appraisal that an individual makes, namely primary and secondary appraisal. In primary appraisal, the individual evaluates whether an event has relevance to well-being. Our finding that perfectionists experienced daily stressors with higher frequency and duration is consistent with the theoretical contention that perfectionists generate or instigate stress, and that this stress uniquely contributes to the greater tendency of these individuals to experience distress (e.g., Hewitt & Flett, 1993). Moreover, this result suggests that these individuals perceive that they have much at stake with many stressors. Thus, modifying the primary stress appraisal process might be a critical factor in the effective treatment of perfectionism.

The present study also suggests that evaluative concerns perfectionists typically engage in dysfunctional, avoidant kinds of coping, such as disengagement and denial, which also may exacerbate both their levels of distress and hassles (see Figure 2). In secondary appraisal, the person evaluates both personal and social resources in terms of what can be done to overcome or prevent harm or to improve the chances of mastery

(Lazarus & Folkman, 1984). The association between evaluative concerns perfectionism and dysfunctional, avoidant kinds of coping, such as disengagement and denial, is consistent with Flett, Hewitt and colleagues' (Flett et al., 1994; Flett, Hewitt, Blankstein, et al., 1996) suggestion that socially prescribed perfectionists react to stressful situations with a helplessness or hopelessness orientation. That is, in terms of secondary appraisal of personal resources, evaluative concerns perfectionists might have lower perceived self-efficacy, perhaps about their inability to cope with stressful situations adequately or to the satisfaction of others (see Flett, Hewitt, Blankstein, et al., 1996). Thus, modifying the appraisal of one's coping effectiveness (cf. Folkman et al., 1991) could be another important treatment intervention for evaluative concerns perfectionists. Moreover, an additional attempt to increase the effectiveness with which evaluative concerns perfectionists cope with stressors could involve training more effective coping behaviors. Indeed, socially prescribed perfectionism has been associated with poorer problem-solving ability (Flett, Hewitt, Blankstein, et al., 1996). Thus, training problem-solving strategies in an effort to identify or create effective and adaptive coping behaviors (D'Zurilla, 1986) could also be an important treatment intervention for evaluative concerns perfectionists.

Perceived available social support was a third unique mediator in the relation between evaluative concerns perfectionism and distress. That is, in terms of secondary appraisal of social resources, there was a negative relation between evaluative concerns perfectionism and the perception that others are available for assistance during stress. This finding is in keeping with evidence which suggests that self-critical individuals have

lower perceptions of social support and, more specifically, do not believe others view them highly, do not feel integrated within a social network, and cannot count on others for help (Mongrain, 1998). Thus, another primary task in treatment should be an attempt to increase perceived social support. Given that parental expectations and criticism are core to the etiology of perfectionism (e.g., Frost et al., 1990) and these negative representations influence subsequent interpersonal relationships (Blatt, Zuroff, Quinlan, & Pilkonis, 1996), a component of a social support intervention could be to help evaluative concerns perfectionists reconceptualize relationships with their family of origin (see Blatt, 1995). As well, socially prescribed perfectionism has been associated with lower self-perceived social skills (Flett, Hewitt, & De Rosa, 1996) and a higher frequency of negative social interactions (Flett et al., 1997), and evidence suggests that self-critical individuals exhibit negative perceptual biases in interpreting social interactions (Mongrain, Vettese, Shuster, & Kendal, 1998). Thus, other aspects of an intervention aimed to increase perceived social support, such as modifying negative biases in interpreting supportive behaviors and improving social competence (see Brand, Lakey, & Berman, 1995), might also be beneficial with evaluative concerns perfectionists.

Our SEM findings using the personal standards perfectionism dimension in the SEM model, in place of evaluative concerns perfectionism, were also informative for treatment interventions with perfectionists. As expected, this perfectionism dimension had a much weaker, although significant, association with distress than did evaluative concerns perfectionism. This finding supports the contention that having high personal

standards and goals is not in and of itself maladaptive (Frost et al., 1990). Moreover, personal standards perfectionism had a different pattern of relations with hassles, coping, and perceived social support than did evaluative concerns perfectionism. Personal standards perfectionism was associated with both maladaptive (i.e., hassles) and adaptive (i.e., active coping) aspects of functioning, while it was not related to avoidant coping and perceived social support which were relevant to the experience of distress. Additionally, personal standards perfectionism was not related to hassles after controlling for the influence of evaluative concerns perfectionism on hassles. Thus, while individuals who are personal standards perfectionists may experience increased levels of stress, perhaps through shared variance with evaluative concerns perfectionism, the negative impact of possessing this maladaptive characteristic might be offset by the intrinsic motivation and tendency of these individuals to engage in active, problem-focused coping (see also Flett et al., 1994). Moreover, the study of personal standards perfectionism serves as a good model for treating evaluative concerns perfectionism to the extent that these individuals employ coping strategies that are less detrimental to well-being.

Hassles and Social Support as Moderators of the Relation between Perfectionism and Distress

The present study also examined the possibility that interactive effects between perfectionism and hassles, coping, and/or social support may predict unique variance in distress scores. Tests of diathesis-stress models provided qualified support for the hypothesis that for both personal standards and evaluative concerns perfectionists, the greatest increases in distress were found as the level of hassles went from low to high.

These findings are consistent with other studies which have found significant interactions between dimensions of perfectionism and stress (Flett, Hewitt, et al., 1995; Hewitt & Flett, 1993; Hewitt et al., 1996; Lynd-Stevenson & Hearne, 1999). As well, in the combined sample, for both evaluative concerns and personal standards perfectionists, there was a significant increase in distress levels as perceived social support decreased from high to low levels. Thus, perfectionism seems to be a personality construct which can illuminate the moderating role of perceived social support (cf. Cohen et al., 1997).

The moderator analyses demonstrated potential conditions for when personal standards perfectionism might be related to distress. The significant interaction between personal standards perfectionism and hassles suggests that high levels of daily stress can overwhelm the personal standards perfectionist's desire or ability to engage in active, problem-focused coping. Moreover, although previous studies have suggested that achievement-related events are primarily important to personal standards perfectionists (e.g., Hewitt et al., 1996), the present study suggested that a composite of different kinds of stressors (i.e., general, academic, social) can impact on these perfectionists. As well, low levels of perceived social support represent another condition when personal standards perfectionism may be related to distress. Furthermore, the stress-buffering finding suggests that the experience of high levels of stress leads to negative outcomes for personal standards perfectionists particularly when these individuals are also low in perceived social support. Thus, this finding buttresses the argument that it may be more beneficial for treatment to focus on changing levels of perceived social support rather than trying to change high personal standards and goals.

The significant interactions found between evaluative concerns perfectionism and hassles and perceived social support, respectively, indicate that these variables might function in both mediating and moderating roles in the relation between this perfectionism dimension and distress (see Baron & Kenny, 1986 for a discussion on variables having both mediator and moderator status in a model). That is, while variations in levels of evaluative concerns perfectionism strongly accounted for variations in hassles and perceived social support, respectively, it did not preclude the possibility of there being a range in the perceived levels of stress and social support among evaluative concerns perfectionists which was unique to the prediction of distress. This supports the contention that, in contrast to personality-trait measures, perceived social support and hassles assessments are somewhat tentative and vary in salience according to recent life events (Procidano & Smith, 1997). Moreover, our moderator findings further support focusing on decreasing daily stress and increasing perceived social support as potentially promising treatment interventions for evaluative concerns perfectionists instead of trying to change perfectionism directly.

It should, however, be noted that, with the exception of the evaluative concerns perfectionism by hassles interaction effect, none of the interaction findings replicated across subsamples. It is also noteworthy that the numerous interactions detected in the present study each accounted for significant but relatively small amounts of variance (1 or 2%) in distress scores. However, detecting moderator effects, particularly higher order effects, in analyses such as these is difficult (see McClelland & Judd, 1993). Further, McClelland and Judd (1993) indicated that it is typical for such interaction effects to

other methods of data collection (e.g., diaries, observer ratings) would be beneficial. Third, the generalizability of the results needs to be examined in other student populations, different age groups, and clinical populations.

The present study used measures of depression and anxiety to represent the distress outcome variable. Given that evaluative concerns perfectionism has been associated with lower academic performance (Arthur & Hayward, 1997) and personal standards perfectionism has been associated with positive affect (Frost et al., 1993), it would be interesting to see what relations emerged with these and other outcomes. It would also be of value for future research to gather information about the quality of experienced events and determine which event appraisals (e.g., unpleasantness, controllability) are most relevant to the experience of distress in perfectionists (see Stone, Kessler, & Haythornthwaite, 1991). Further, examination of the role of primary appraisals of stressors and major life events from different domains (e.g., interpersonal, achievement) would be informative. The present study employed a dispositional measure of coping and, thus, only assessed one facet of coping. Studies using more situational measures of coping would be useful. Moreover, it would be important to determine whether perfectionists employ different coping strategies with different types of stressors. It would also be informative to examine the role of perfectionists' appraisals of their coping resources in determining the effectiveness of their coping strategies (e.g., Lazarus & Folkman, 1984). For example, a sense of self-efficacy is presumed to facilitate the initiation and maintenance of coping efforts. Researchers could also look at the utility of different aspects of social support, such as practical and emotional support (see Flett,

Blankstein, Hicken, & Watson, 1995).

A final proposed direction for future research would be the development and validation of an intervention for perfectionists that combines the key elements of cognitive-behavioral and interpersonal therapies with a focus on the strategies outlined above. Such an intervention could be offered to matriculating freshman who are identified as at risk for academic problems (see Schwitzer, Grogan, Kaddoura, & Ochoa, 1993) or university students who are seeking assistance from counseling programs. Our findings underscore the importance of assessing perfectionism as a multidimensional construct. That is, it might not be necessary for counselors to address high personal standards in treating perfectionists; rather, the counselor should direct his/her attention to the self-critical components of perfectionism (i.e., concerns about others' evaluation or criticism, concerns over making mistakes, doubts about the quality of one's actions) and their dysfunctional aspects, in particular high daily stress, avoidant coping, and negative perceptions about the availability of social support.

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Table 1
Descriptive Statistics for the Combined Sample

Measures	M	SD
Evaluative Concerns Perfectionism		
Socially Prescribed Perfectionism (MPS)	54.43	12.22
Concern Over Mistakes (FMPS)	22.52	6.87
Doubts About Actions (FMPS)	11.10	3.07
Personal Standards Perfectionism		
Self-Oriented Perfectionism (MPS)	66.83	13.64
Personal Standards (FMPS)	22.56	4.65
Avoidant Coping		
Mental Disengagement	9.47	2.35
Behavioral Disengagement	7.04	2.46
Denial	6.59	2.43
Active Coping		
Active Coping	10.89	2.06
Planning	10.96	2.34
Suppression of Competing Activities	9.49	2.06
Perceived Social Support		
Reliable Alliance	14.07	2.13
Attachment	13.36	2.30
Guidance	14.01	2.21
Hassles		
General Hassles	110.19	26.67
Academic Hassles	111.67	30.94
Social Hassles	79.71	32.21

(Table 1 continues)

Table 1, continued

Measures	M	SD
Distress		
General Distress: Anxious Symptoms	21.26	7.18
General Distress: Depressive Symptoms	25.95	10.61
Anxious Arousal	25.95	9.39
Anhedonic Depression	59.73	14.50

Note. MPS = Multidimensional Perfectionism Scale. FMPS = Frost Multidimensional Perfectionism Scale.

Table 2

Measurement Model Factor Loadings and Correlations for Sample 1 and 2

Variables	1	2	3	4	5	6	7
			Factor Loadings				
Socially Prescribed Pft	.59	.79					
Concern Over Mistakes	.74	.85					
Doubts About Actions	.62	.64					
Self-Oriented Pft		.58	.79				
Personal Standards		.94	.62				
Mental Disengagement			.55	.52			
Behavioral Disengagement			.77	.82			
Denial			.67	.69			
Active Coping				.74	.71		
Planning				.88	.84		
Suppression of Cmp Act				.44	.59		
Reliable Alliance					.76	.81	
Attachment					.79	.75	
Guidance					.88	.96	
General Hassles						.94	.90
Academic Hassles						.88	.85
Social Hassles						.78	.80
G. D.: Anxious Symptoms							.72 .68
G. D.: Depressive Symptoms							.96 .98
Anxious Arousal							.58 .55
Anhedonic Depression							.69 .69

(Table 2 continues)

Table 2, continued

Variables	1	2	3	4	5	6	7
			Correlations				
Evaluative Concerns Pft	-	.50***	.63***	-.12	-.48***	.69***	.54***
Personal Standards Pft	.60***	-	-.15	.22*	.00	.16*	.08
Avoidant Coping	.56***	-.13	-	-.11	-.30**	.65***	.52***
Active Coping	-.15	.32***	-.19*	-	.30**	-.06	-.11
Perceived Social Support	-.42***	-.08	-.32***	.09	-	-.28***	-.36***
Hassles	.55***	.23**	.54***	-.09	-.27***	-	.56***
Distress	.58***	.17*	.53***	-.08	-.41***	.50***	-

Note. Sample 1 (n = 221) factor loadings on the left, sample 2 (n = 222) factor loadings on the right. Sample 1 correlations above the diagonal, sample 2 correlations below the diagonal.

1 = Evaluative Concerns Perfectionism. 2 = Personal Standards Perfectionism. 3 = Avoidant Coping. 4 = Active Coping. 5 = Perceived Social Support. 6 = Hassles. 7 = Distress.

Pft = Perfectionism. Cmp Act = Competing Activities. G. D. = General Distress.

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

Table 3

Comparison of Nested, Competing SEM Models for Evaluative Concerns Perfectionism in Sample 1

Model	Chi-square	df	Chi-square/ df	GFI	IFI	CFI	AIC	BIC	$Chi\text{-}square_{diff}$ Test
Model 1	325.95	136	2.40	.87	.91	.91	433.95	776.45	
Model 2	327.48	137	2.39	.87	.91	.91	433.48	769.63	M2 - M1 = 1.53
Model 3 (Selected)	327.51	138	2.37	.87	.91	.91	431.51	761.33	M3 - M1 = 0.03
Model 4a	340.19	139	2.45	.87	.90	.90	442.19	765.66	M4a - M3 = 12.67**
Model 4b	333.11	139	2.40	.87	.91	.91	435.11	758.59	M4b - M3 = 5.60*
Model 4c	336.04	139	2.42	.87	.91	.91	438.04	761.52	M4c - M3 = 8.53**

Note. Significant chi-square difference tests indicated a significantly worse fit to the data for the model.

Model 1 = Full model. Model 2 = Perfectionism to Distress path deleted. Model 3 = Perfectionism and Active Coping paths to Distress deleted. Model 4a = Perfectionism, Active Coping, and Hassles paths to Distress deleted. Model 4b = Perfectionism, Active Coping, and Avoidant Coping paths to Distress deleted. Model 4c = Perfectionism, Active Coping, and Perceived Social Support paths to Distress deleted.

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

Table 4

Hierarchical Regression Analyses on the Combined Sample with Evaluative Concerns and Personal Standards Perfectionism, Hassles, Avoidant and Active Coping, Perceived Social Support, and Interaction Effects as Predictors of Distress

Variables	Standardized Beta	F	R^2 Change
Step 1			.38***
EC Perfectionism	.20	13.70***	
PS Perfectionism	-.01	0.01	
Hassles	.26	28.39***	
Avoidant Coping	.18	14.73***	
Active Coping	-.00	0.01	
Perceived Social Support	-.19	20.95***	
Step 2			.01**
EC Perfectionism x Hassles	.12	9.77**	
Step 2			.01*
PS Perfectionism x Hassles	.08	4.91*	
Step 2			.02***
EC Perfectionism x Support	-.14	12.98***	
Step 2			.01**
PS Perfectionism x Support	-.11	7.61**	

(Table 4 continues)

Table 4, continued

Variables	Standardized Beta	F	R^2 Change
Step 2			.02*
PS Perfectionism x Hassles	.06	2.13	
PS Perfectionism x Support	-.08	3.81	
Hassles x Support	-.05	1.61	
Step 3			.01*
PS Perfectionism x Hassles x Support	-.10	6.27*	

Note. PS = Personal Standards. EC = Evaluative Concerns. Support = Perceived Social Support.

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

Figure Captions

Figure 1. Hypothesized structural model relating perfectionism, hassles, avoidant and active coping, perceived social support, and distress latent variables.

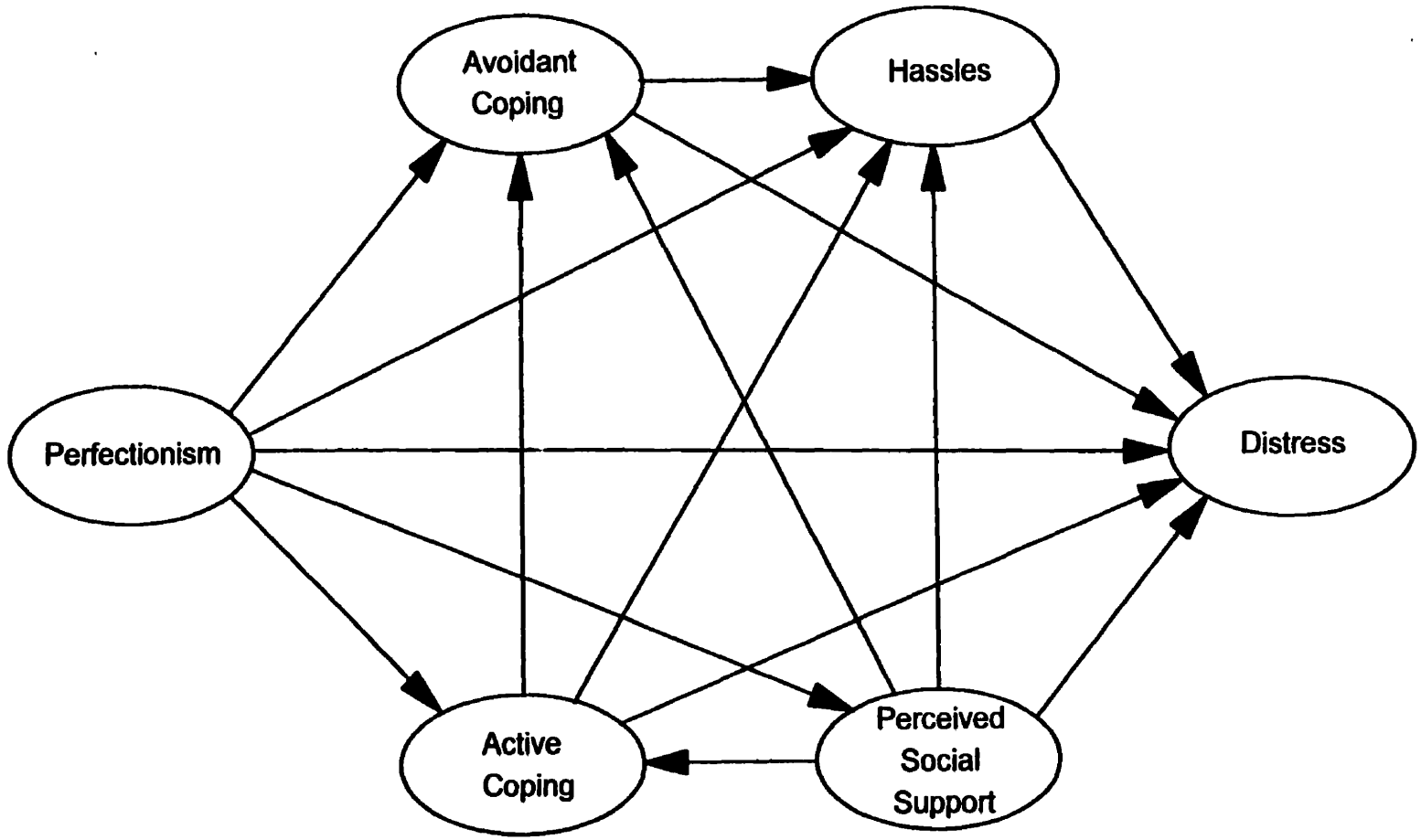
Figure 2. Standardized factor loadings and parameter estimates of the final structural model relating evaluative concerns and personal standards perfectionism, hassles, avoidant coping, active coping, social support, and distress. The residual arrows denote the proportion of variance in the endogenous latent variable that was unaccounted for by other variables in the model.

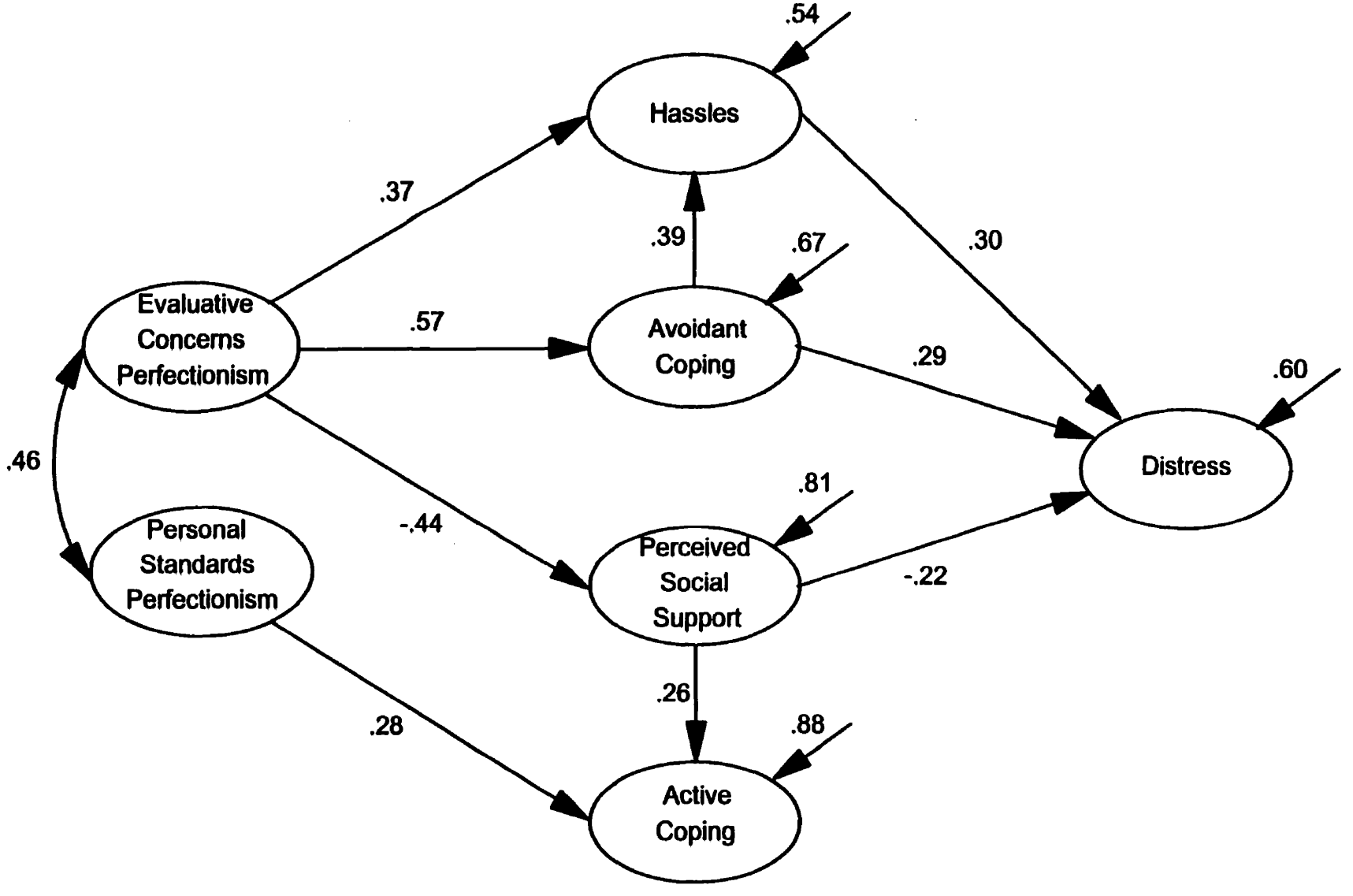
Figure 3. Two-way interactions between evaluative concerns (EC) perfectionism and hassles (top) and personal standards (PS) perfectionism and hassles (bottom) predicting distress. Values for perfectionism and hassles are plotted using low (one standard deviation below the mean) and high (one standard deviation above the mean) values of perfectionism and hassles.

Figure 4. Two-way interactions between evaluative concerns (EC) perfectionism and social support (top) and personal standards (PS) perfectionism and social support (bottom) predicting distress. Values for perfectionism and social support are plotted using low (one standard deviation below the mean) and high (one standard deviation above the mean) values of perfectionism and social support.

Figure 5. Three-way interaction between personal standards (PS) perfectionism, social support, and hassles predicting distress. Values for personal standards perfectionism, social support, and hassles are plotted using low (one standard deviation below the mean)

and high (one standard deviation above the mean) values of personal standards perfectionism, social support, and hassles.


Avoidant Coping
Hassles
Perfectionism
Distress
Active Coping
Perceived Social Support


.54
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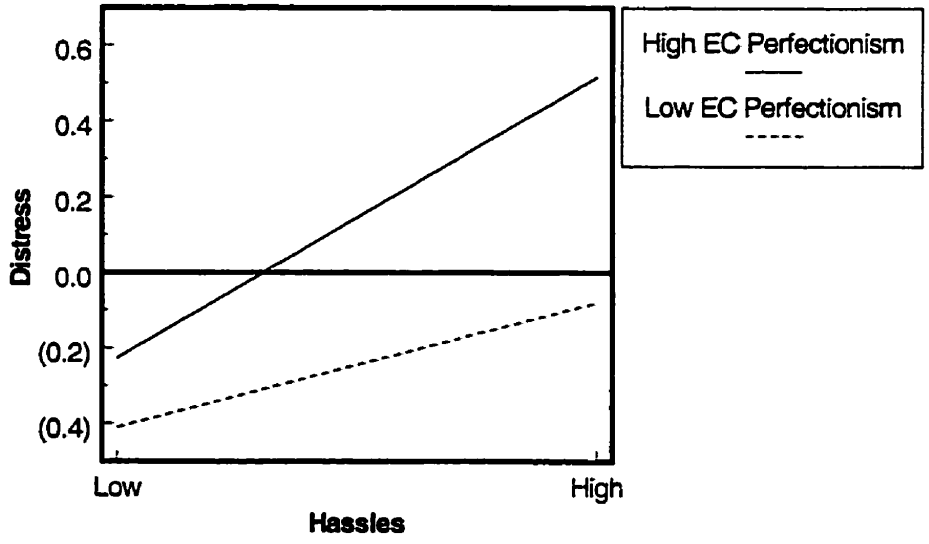
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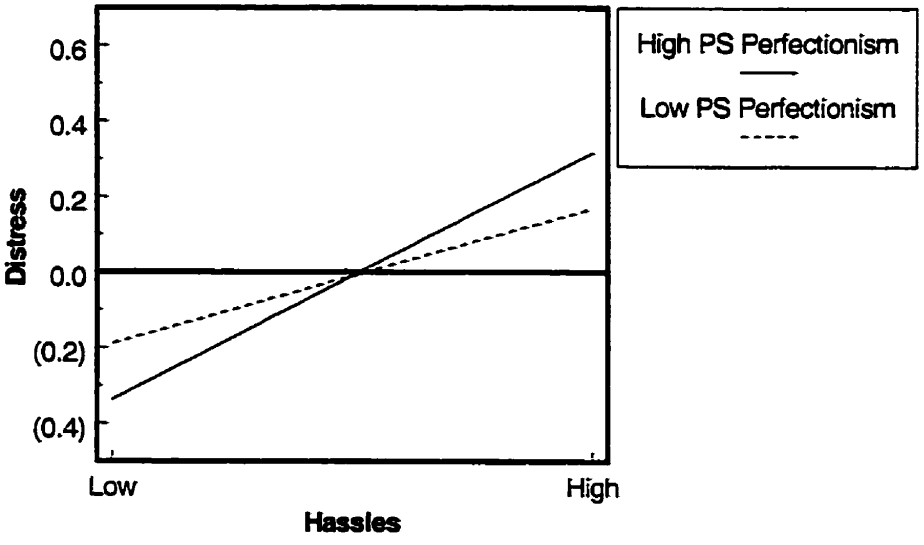
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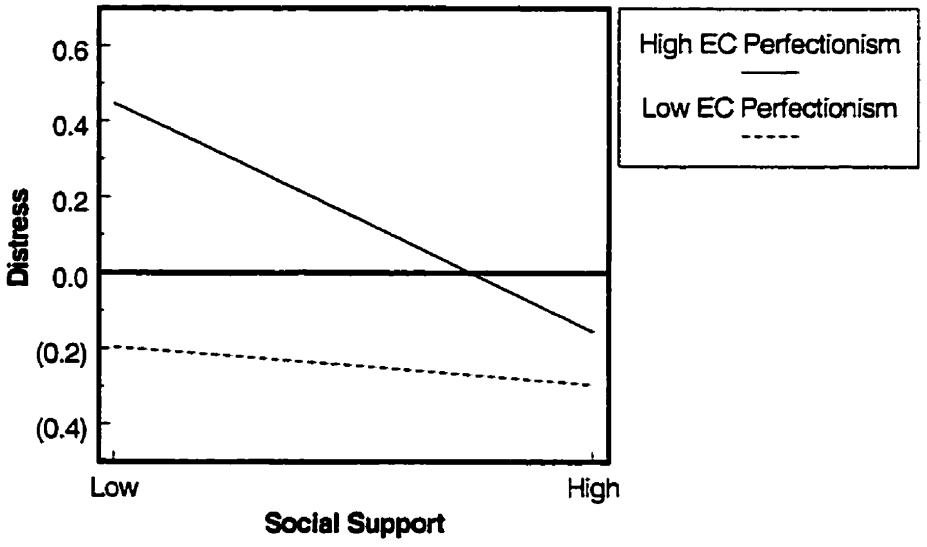
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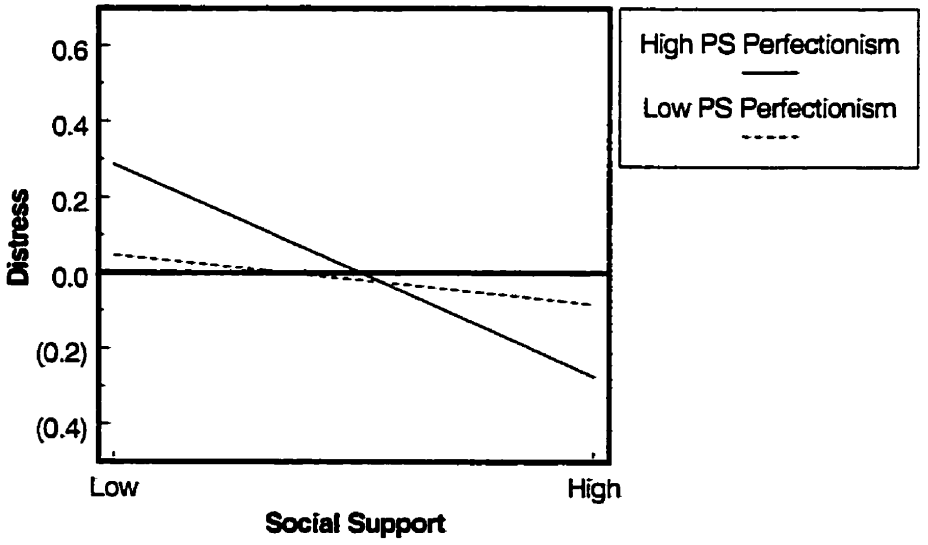
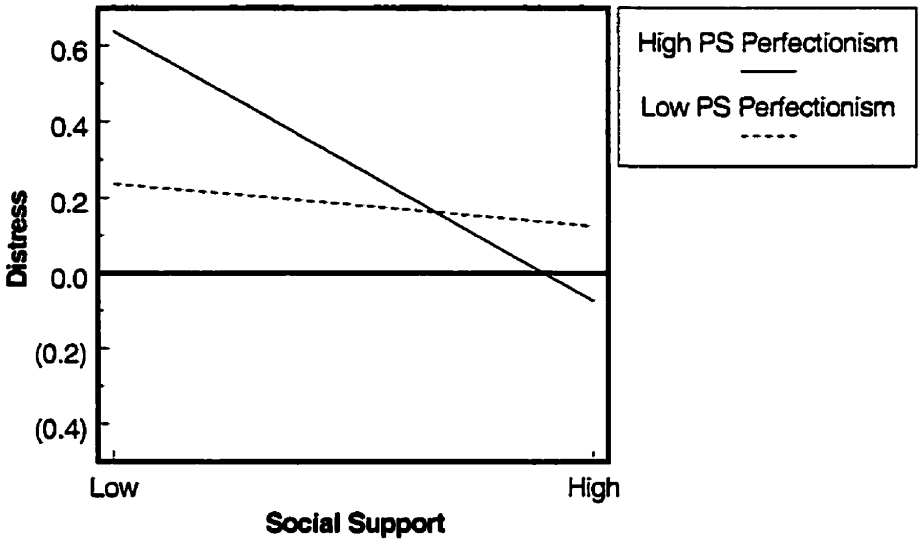
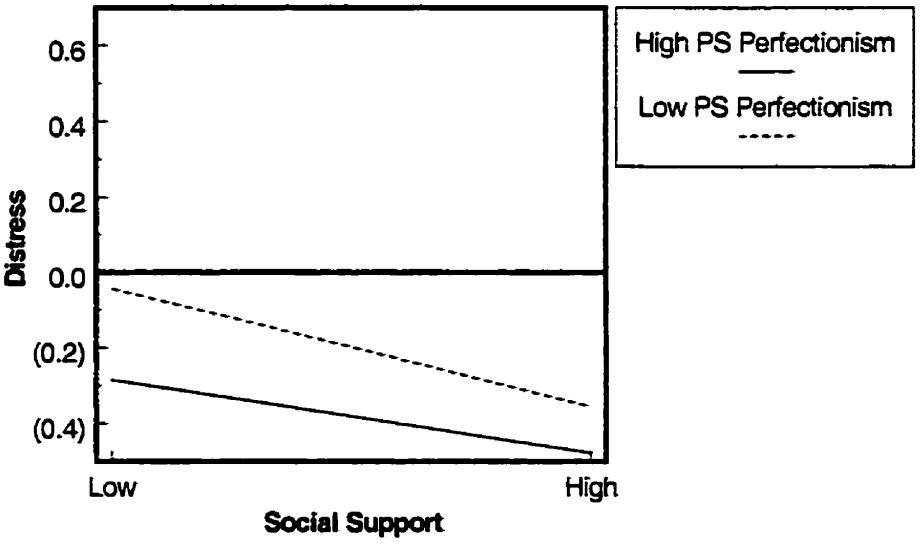
Distress
Low
High
Social Support
High EC Perfectionism
Low EC Perfectionism


0.6
0.4
0.2
0.0
(0.2)
(0.4)
Distress
Low
High
Social Support
High PS Perfectionism
Low PS Perfectionism

High Hassles



Low Hassles



Transition from Study One to Study Two

Study One identified avoidant coping, perceived social support, and daily stress as mediators of the relation between evaluative concerns perfectionism and distress. These mediators were conceptualized as stable, trait-like characteristics associated with EC perfectionism and were assessed using retrospective, dispositional self-report measures that required participants to summarize their stress, coping, and perceived social support over time and across situations. However, measures of dispositional coping and perceived social support need to be subjected to more rigorous empirical tests of the classic properties of a trait, namely, consistency across multiple types of stressors over time. The primary purpose of Study Two was to examine daily stressful events, avoidant coping, and perceived social support as mediating traits in the relation between EC perfectionism and dysphoria. That is, Study Two was based on the final model of Study One and used many of the same measures, but (1) incorporated major methodological improvements and (2) used negative affect and positive affect as outcome variables rather than depression and anxiety.

In addition to testing the mediational hypotheses in Study One's final model, Study Two investigated three major issues underlying consideration of stress, coping, and perceived social support as traits. These issues are the role of trait versus situational influences in cognitive appraisals and coping; retrospective, summary trait measures versus aggregated, situation-specific trait measures; and internal consistency in the assessment of situation-specific coping. Study Two used a daily diary methodology to obtain multiple assessments of how each individual appraised and coped with a variety of

stressful situations, allowing me to assess the extent to which variability in appraisals and coping reflects within-person (situational) and between-person (dispositional) influences. I then aggregated each person's responses across situations (i.e., days), thereby empirically deriving trait measures of stress, coping, and perceived social support. This enabled me to examine whether EC and PS perfectionism are related to whatever individual differences exist in aggregated, situation-specific assessments of cognitive appraisals and coping and, further, whether the relations are comparable to those reported using retrospective, summary trait measures. I also examined whether situation-specific coping responses (e.g., behavioral disengagement, planning) could be combined factor analytically to form broad, internally consistent, coping constructs (i.e., avoidant coping, problem-focused coping).

Research has suggested that affective structure is comprised of positive and negative affect, which are two independent, but related, factors that reflect distinct processes and relate to different classes of variables. Study Two used SEM to illuminate which mediators (i.e., daily event stress, avoidant coping, perceived social support) might be specific to negative affect and which elements might be specific to an absence of positive affect. Study Two also attempted to understand EC perfectionism's association with avoidant coping, given the mediating role that avoidant coping plays in the relation between EC perfectionism and distress. Self-blame, lower perceived self-efficacy, and the perceived potential for criticism from others were examined as potential mediators of the relation between EC perfectionism and avoidant coping. Finally, because EC perfectionism appears to share much in common with Blatt's self-criticism, I tested the

link by including DEQ self-criticism as an additional indicator of the evaluative concerns perfectionism latent construct.

Manuscript submitted for publication

Evaluative Concerns Perfectionism and Daily Affect:

Event Stress, Avoidant Coping, and Perceived Social Support as Mediating Traits

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Abstract

This study of university students (66 men and 104 women) examined daily event appraisals, avoidant coping, and perceived social support as trait mediators in the relation between the evaluative concerns (EC) dimension of perfectionism and high negative affect and low positive affect. Participants completed questionnaires at the end of the day for seven consecutive days. Trait influences were found in the daily reports of event appraisals, coping styles, and social support. Confirmatory factor analysis supported the construct validity of the perfectionism and aggregated daily measures. Structural equation modeling indicated that avoidant coping fully explained the relation between EC perfectionism and negative affect, while perceived social support was the primary mediator of the negative relation between EC perfectionism and positive affect. In addition, self-blame and low perceived efficacy fully explained the relation between EC perfectionism and avoidant coping. Clinical implications of treating EC perfectionists by considering their dispositional tendencies are discussed.

Evaluative Concerns Perfectionism and Daily Affect: Event Stress, Avoidant Coping, and Perceived Social Support as Mediating Traits

Blatt (1995) discussed intense perfectionism coupled with severe self-criticism as a harmful attribute that can have an important role in a wide range of problems, particularly depression and suicide. Additionally, perfectionism and the related personality dimension of self-criticism have emerged as important factors that have a negative impact on the treatment of depression (e.g., Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998; Rector, Bagby, Segal, Joffe, & Levitt, 2000). Moreover, perfectionism is relatively resistant to change. For example, Zuroff and colleagues (Zuroff, Blatt, Sanislow, Bondi, & Pilkonis, 1999) reported that patients with initially high levels of perfectionism remained relatively high in perfectionism over the treatment period and even more so during the 18-month follow-up period. Although there has been increased understanding of the dynamics of intense perfectionism and self-criticism, studies need to address more directly the mechanisms or processes through which perfectionism has its ill effects (Blatt, 1995). The present study sought to illuminate daily stress, avoidant coping, and negative perceived social support as stable, trait-like correlates of perfectionism that contribute to its role as a vulnerability factor for high negative affect and low positive affect, a combination that has been linked with depression (see Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000).

Evaluative Concerns Perfectionism and Dysphoria: A Mediational Model

In the past decade, research has demonstrated that perfectionism is a multidimensional construct with both adaptive and maladaptive correlates (see Blankstein

& Dunkley, in press; Blatt, 1995). Two groups of investigators, Hewitt and Flett (e.g., 1991) and Frost and colleagues (e.g., Frost, Marten, Lahart, & Rosenblate, 1990), have independently conceptualized perfectionism from a multidimensional perspective. Factor analytic studies (e.g., Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Slaney, Ashby, & Trippi, 1995) of the Multidimensional Perfectionism Scales developed by Hewitt and Flett (MPS; 1991) and Frost and colleagues (FMPS; Frost et al., 1990) have supported the existence of two dimensions of perfectionism. Dunkley et al. (2000) did a confirmatory factor analysis (CFA) of selected indicators from these two dimensions and found support for two factors, which they labeled personal standards (PS) perfectionism and evaluative concerns (EC) perfectionism. PS perfectionism reflected the self-directed setting of and striving for exacting high standards and goals and was indicated by MPS self-oriented perfectionism and FMPS personal standards. On the other hand, EC perfectionism reflected overly critical self-evaluation tendencies, constant doubts about one's own abilities, and persistent concern about others' criticism and expectations. This factor was indicated by FMPS concern over mistakes, FMPS doubts about actions, and MPS socially prescribed perfectionism.

EC perfectionism is reminiscent of Blatt's (1974; Blatt, D'Afflitti, & Quinlan, 1976) self-criticism construct which refers to individuals who "engage in constant and harsh self-scrutiny and evaluation and have a chronic fear of being disapproved and criticized, and of losing the approval and acceptance of significant others" (Blatt & Zuroff, 1992, p. 528). Indeed, self-criticism, as measured by the Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976), has shown moderate to large correlations with

the scales which tap EC perfectionism, in contrast to small correlations with the scales which tap PS perfectionism (Dunkley & Blankstein, 2000; Enns & Cox, 1999; Frost et al., 1990).[1] Thus, because EC perfectionism appears to share much in common with Blatt's self-criticism, we tested the link by including DEQ self-criticism as an additional indicator of the evaluative concerns perfectionism latent construct.

The two dimensions of perfectionism also differ in their relation to depression (see Dunkley et al., 2000). The indicators of EC perfectionism typically show moderate to strong zero-order correlations with depressive symptoms (e.g., Dunkley & Blankstein, 2000; Enns & Cox, 1999; Hewitt & Flett, 1991; Nietzel & Harris, 1990; Stöber, 1998), which suggests the existence of dispositional mediating mechanisms that explain why EC perfectionism is related to depression (see Baron & Kenny, 1986). In contrast, PS perfectionism is only problematic in specific situations or circumstances, as PS perfectionism indicators often have negligible zero-order correlations with depressive symptoms, particularly in college student populations (e.g., Dunkley & Blankstein, 2000; Flett, Hewitt, Blankstein, Solnik, & Van Brunschot, 1996; Flett, Hewitt, Garshowitz, & Martin, 1997; Frost et al., 1993; Stöber, 1998). PS perfectionism variables have been found to be positively related to depression or distress in combination with high achievement-related stress (Hewitt & Flett, 1993; Hewitt, Flett, & Ediger, 1996), high emotion-focused coping (Hewitt, Flett, & Endler, 1995), and low perceived social support (Dunkley et al., 2000).

Recently, a number of studies using path analyses and structural equation modeling (SEM) have tested theoretical models with self-esteem (Rice, Ashby, & Slaney,

1998), stress (Chang, 2000), both stress and perceived social support (Priel & Shahar, 2000), and both hassles (i.e., daily stress) and maladaptive coping (Dunkley & Blankstein, 2000) as mediators in the association between variables related to EC perfectionism and maladjustment. Dunkley et al. (2000) used SEM to cross-validate a model in which hassles, avoidant coping, and perceived availability of social support fully mediated the relation between EC perfectionism and distress, as indicated by depressive and anxious symptoms. That is, EC perfectionism was related to each of daily stress, avoidant coping, and perceived social support (negatively), which were, in turn, each uniquely related to distress. Further, EC perfectionism did not have a relation with distress controlling for the effects of daily stress, avoidant coping, and perceived social support. Avoidant coping also mediated the relation between EC perfectionism and daily stress. Thus, the tendency to engage in avoidant coping might serve both to impede adaptive coping, thereby preventing movement beyond the distress associated with stressful situations (Carver, Scheier, & Weintraub, 1989), and to increase the severity of the stressors that a EC perfectionist experiences (see Holahan, Moos, & Bonin, 1997). PS perfectionism was unrelated to distress and uniquely related to active coping (referred to as problem-focused coping in this article) only, which is consistent with other findings (e.g., Dunkley & Blankstein, 2000).

The primary purpose of this study was to examine daily stressful events, avoidant coping, and perceived social support as mediating traits in the relation between EC perfectionism and dysphoria. That is, the present study was based on the final model of Dunkley et al. (2000) and used many of the same measures, but (1) incorporated major

methodological improvements and (2) used negative affect and positive affect as outcome variables rather than depression and anxiety. Three sections follow. First, we discuss three methodological issues raised by considering cognitive appraisals and coping as traits. Second, we propose mediational models, building on Dunkley et al. (2000), in which EC perfectionism is related to the high negative affect and low positive affect components of dysphoria. Third, we present a mediational model of the relation between EC perfectionism and avoidant coping. Self-blame, perceived efficacy, and perceived criticism are proposed as dispositional mediators of that relation.

Methodological Issues in the Assessment of Daily Event Appraisals, Coping, and Perceived Social Support

Dunkley et al. (2000) identified avoidant coping, perceived social support, and daily stress as mediators of the relation between EC perfectionism and distress. They conceptualized these mediators as stable, trait-like characteristics of EC perfectionism and assessed them using retrospective, dispositional self-report measures that required participants to summarize their stress, coping, and perceived social support over time and across situations. However, measures of dispositional coping and perceived social support need to be subjected to more rigorous empirical tests of the classic properties of a trait, namely, consistency across multiple types of stressors over time (see Procidano & Smith, 1997; Watson, David, & Suls, 1999). The present study investigated three major issues underlying consideration of stress, coping, and perceived social support as traits. These issues are the role of trait versus situational influences in cognitive appraisals and coping; retrospective, summary trait measures versus aggregated, situation-specific trait

measures; and internal consistency in the assessment of situation-specific coping.

Dispositional versus Situational Influences in Appraisals and Coping. Cognitive appraisals and coping are emphasized as critical mediators in the relation between stressful person-environment relations and outcomes by the cognitive theory of psychological stress and coping developed by Lazarus and colleagues (e.g., Lazarus & Folkman, 1984). Few studies have examined the extent to which there are consistent differences among individuals in the way they appraise events and social support and cope with everyday stressors (see Schwartz, Neale, Marco, Shiffman, & Stone, 1999; Watson et al., 1999). Previous findings generally indicate that stressor appraisals (e.g., extent to which the situation could be changed) are highly variable (Folkman, Lazarus, Gruen, & DeLongis, 1986), whereas coping, particularly escape-avoidance coping, is moderately stable (Folkman et al., 1986; Schwartz et al., 1999). Although substantial evidence indicates that perceived social support has some personality-like qualities (see Pierce, Lakey, Sarason, Sarason, & Joseph, 1997), it is possible that perceived social support might differ for different types of stressors (see Procidano & Smith, 1997). The present study used a daily diary methodology to obtain multiple assessments of how each individual appraised and coped with a variety of stressful situations, allowing us to assess the extent to which variability in appraisals and coping reflects within-person (situational) and between-person (dispositional) influences.

Retrospective versus Situation-Specific Trait Measures. Retrospective, dispositional measures of stress, coping, and perceived social support, such as those used in Dunkley et al.'s (2000) study, ask participants to summarize their cognitions and

behaviors over time and across situations. The associations reported between personality and such measures might be inflated due to memory biases and distortions (see Bolger & Eckenrode, 1991; David & Suls, 1999). Because more confidence can be placed in associations that are obtained with situation-specific measures administered soon after a stressful event (Bolger, DeLongis, Kessler, & Schilling, 1989; Porter & Stone, 1996), the present study used a daily diary methodology to obtain situational measures of event stress, coping, and perceived social support. We then aggregated each person's responses across situations (i.e., days), thereby empirically deriving trait measures of stress, coping, and perceived social support. This enabled us to examine whether EC and PS perfectionism are related to whatever individual differences exist in aggregated, situation-specific assessments of cognitive appraisals and coping and, further, whether the relations are comparable to those reported using retrospective, summary trait measures.

Internal Consistency in the Assessment of Situation-Specific Coping. An important caveat is that deriving trait coping measures empirically through repeated situation-specific assessment might not be useful if situation-specific coping measures are not internally consistent. Stone and Kennedy-Moore (1992) questioned whether conceptually related situation-specific coping items empirically covary with one another. For example, considering the items of the "planful problem-solving" scale of the Ways of Coping Inventory (WOC; e.g., Folkman & Lazarus, 1985). For any specific situation, one might endorse "I made a plan of action and followed it" without endorsing "came up with a couple of different solutions to the problem." Moreover, while factor-analytic procedures might be able to detect meaningful clusters of coping responses when

numerous specific responses are considered dispositionally (i.e., over time and in response to multiple stressors), this might not be the case when situation-specific items are used (Watson & Hubbard, 1996). Without internally consistent situation-specific coping measures, it will be difficult to have clear interpretations of what is being measured, and coping researchers will be unable to detect existing relationships (see Folkman, 1992; Stone & Kennedy-Moore, 1992; Watson & Hubbard, 1996). As Dunkley et al.'s (2000) model was based on scales from the dispositional version of the COPE (Carver et al., 1989), it seemed appropriate that the present study attempt to measure situation-specific coping tendencies with the parallel situational version of the COPE (Carver et al., 1989). Specifically, we examined whether situation-specific coping responses (e.g., behavioral disengagement, planning) could be combined factor analytically to form broad, internally consistent, coping constructs (i.e., avoidant coping, problem-focused coping).

Evaluative Concerns Perfectionism and Positive and Negative Affect: Mediational Pathways

Research has suggested that affective structure is comprised of positive and negative affect, which are two independent, but related, factors that reflect distinct processes and relate to different classes of variables (e.g., Diener, Smith, & Fujita, 1995; Watson, 1988). Chronic dysphoria in EC perfectionists might be a result of both intense, prolonged negative affect and an absence of compensatory experiences of positive affect which could provide a psychological break or respite (see Folkman & Moskowitz, 2000). Indeed, DEQ self-criticism has been associated with higher levels of negative affect and

lower levels of positive affect measured daily over periods of one-week (Mongrain & Zuroff, 1995; Zuroff, Stotland, Sweetman, Craig, & Koestner, 1995) and 20 days (Zuroff, Moskowitz, & Coté, 1999). Further, DEQ self-criticism has been related to ineffective mood management strategies (i.e., venting) which prolong negative affect (Fichman, Koestner, Zuroff, & Gordon, 1999).

The present study used SEM to illuminate which mediators (i.e., daily event stress, avoidant coping, perceived social support) might be specific to negative affect and which elements might be specific to an absence of positive affect. In diary studies that have differentiated between negative and positive affect, perceived daily stress, daily hassles, and undesirable events were associated with greater levels of negative affect but had negligible associations with positive affect (e.g., Clark & Watson, 1988; David, Green, Martin, & Suls, 1997; Kanner, Coyne, Schaefer, & Lazarus, 1981; Watson, 1988). Gunthert, Cohen, and Armeli (1999) found distraction and wishful thinking to be associated with more negative affect (positive affect was not assessed in their study) using intraindividual analyses, which suggests that avoidant coping might be specific to negative affect. Conversely, social activity has been related to positive affect, but not negative affect (Clark & Watson, 1988; Watson, 1988), which indicates that perceived social support might be specific to positive affect. In short, we predicted daily event stress and avoidant coping- but not perceived social support- to mediate the relation between EC perfectionism and negative affect and perceived social support- but not event stress and avoidant coping- to mediate the relation between EC perfectionism and positive affect.

Figure 1 depicts our tested relations, based on the model of Dunkley et al. (2000), for the mediation of negative affect. We specified that: (1) EC perfectionism will be linked to each of daily event stress, avoidant coping, and perceived social support; (2) event stress, avoidant coping, and perceived social support will each be linked to negative affect; and (3) avoidant coping will be linked to event stress.

Insert Figure 1 About Here

It was also hypothesized that PS perfectionism and perceived social support will each be linked to problem-focused coping. In addition, as Frost et al. (1993) detected a relation between PS perfectionism variables and positive affect, the present study sought to examine problem-focused coping as a potential explanation for the association between PS perfectionism and positive affect (see Folkman & Moskowitz, 2000). Carver and Scheier (1994) found a positive correlation between problem-focused coping (active coping, planning, and suppression of competing activities combined) and one type of positive mood, namely perceived "challenge" (confident, hopeful, eager). Thus, in using the model diagramed in Figure 1 to predict positive affect, we also specified a path between problem-focused coping and positive affect.

Evaluative Concerns Perfectionism and Avoidant Coping: Self-Blame, Low Perceived Efficacy, and Perceived Criticism as Potential Mediators

It is important to understand EC perfectionism's association with avoidant coping, given the mediating role that avoidant coping plays in the relation between EC

perfectionism and distress. Furthermore, avoidant coping might play a role in poor therapy outcome for EC perfectionists, since reliance on avoidant coping strategies predicts nonremission of depression (Krantz & Moos, 1988). One explanation for why EC perfectionists will be consistent in engaging in avoidant coping is that they view their characteristics, skills, and resources in a consistent way across stressful situations (see Ptacek & Gross, 1997). Flett, Hewitt, and colleagues (Flett, Hewitt, Blankstein et al., 1996; Flett, Russo, & Hewitt, 1994) suggested that socially prescribed perfectionism involves high levels of helplessness at a dispositional level, which undermines efforts at problem-focused coping. Further, they speculated that these individuals resemble the children with high levels of helplessness in the research by Dweck and associates (see Dweck & Sorich, 1999, for a review).

Specifically, EC perfectionists are theorized to quickly blame and condemn their abilities and personal qualities, which they view as fixed and deep-seated. A moderate association between socially prescribed perfectionism and self-blame has been reported (Hewitt & Flett, 1991), and self-critical women communicated more self-deprecating statements about their own performance on a conflict resolution task (Vettese & Mongrain, 2000). EC perfectionists become preoccupied with their deficiencies and their inability to handle the stressful situation to the extent that they lack the motivation to engage in active coping with the situation, engaging instead in avoidance of threatening stimuli (see Figure 2). EC perfectionists' self-blame and denigration also explains their perceptions of low efficacy and expectations of criticism from others in their dealing with the stressful situation. Socially prescribed perfectionism has been related to low self-

efficacy (Martin, Flett, Hewitt, Krames, & Szanto, 1996) and negative beliefs about the ability to solve problems (Flett, Hewitt, Blankstein et al., 1996), which are associated with avoidant coping (see Moos & Schaefer, 1993). As well, individuals high in concern over mistakes have reported more worry about other peoples' reactions to their mistakes and a greater desire to keep their mistakes a secret (Frost et al., 1997; Frost et al., 1995). EC perfectionists fear that they cannot meet the standards of others and worry that they will be judged negatively in their handling of the situation, which also contributes to their use of avoidant coping (see Flett, Hewitt, Blankstein et al., 1996). Thus, the present study examined self-blame, lower perceived self-efficacy, and the perceived potential for criticism from others as potential mediators of the relation between EC perfectionism and avoidant coping. Figure 2 displays the complete set of tested relations as follows: (1) EC perfectionism will be linked to each of self-blame, perceived efficacy, perceived criticism, and avoidant coping; (2) self-blame, perceived efficacy, and perceived criticism will each be linked to avoidant coping; and (3) self-blame will be linked to each of perceived efficacy and perceived criticism.

Insert Figure 2 About Here

Method

Participants

Participants were full-time students at McGill University recruited in October and November of 1999 using student newspaper advertisements and classroom

announcements for an eight-day diary study on personality and daily events. Participants were compensated $25 for their participation in the study. One hundred and seventy-nine students agreed to participate and completed initial measures. Of the initial sample, nine participants were excluded due to failure to complete four or more days of diary entries. The final sample included 170 participants (66 men and 104 women), including three participants who completed four diaries, two who completed five diaries, and two who completed six diaries. Their mean age was 19.99 years (S.D. = 2.24). The majority of participants were of European descent (67%, n = 114), with 18% Asian (n = 31), 8% East Indian (n = 13), 3% African (n = 5), 3% South American (n = 5), and 1% Caribbean (n = 2).

Procedure

Participants provided demographic information and completed a package of questionnaires, including measures of perfectionism, in a one-hour lab session. During the lab visit, participants were instructed to complete one diary at bedtime, starting that night, for the next eight nights. The diary consisted of a package of questionnaires, including the measures of daily affect, event appraisals, coping, and social support. The diary for the eighth night asked participants to recall their affect, event appraisals, coping, and social support over the previous seven days and was not included in the present analyses. To minimize misunderstandings, the experimenter explained each part of the diary to the participant. Participants were given eight stamped envelopes, each containing a diary inside and the diary day written on the address label, and were asked to fill out the diary inside the envelope at bedtime and mail the envelope the next morning.

Participants were encouraged to complete their diaries every evening, but were advised to complete them as soon as possible the next morning, if they failed to complete their diary the previous night.

Measures

The latent constructs (i.e., EC perfectionism, PS perfectionism, negative affect, positive affect, event stress, avoidant coping, problem-focused coping, perceived social support) were each assessed using multiple indicators described below.

Perfectionism. The measures of EC perfectionism and PS perfectionism were obtained from the MPS (Hewitt & Flett, 1991), FMPS (Frost et al., 1990), and DEQ (Blatt et al., 1976). EC perfectionism was assessed by MPS socially prescribed perfectionism (15 items; e.g., "People expect nothing less than perfection from me"), FMPS concern over mistakes (9 items; e.g., "People will think less of me if I make a mistake"), FMPS doubts about actions (4 items; e.g., "It takes me a long time to do something right"), and DEQ self-criticism (e.g., "There is a considerable difference between how I am now and how I would like to be"). The first three measures were the indicators of EC perfectionism in Dunkley et al. (2000). PS perfectionism was indicated by MPS self-oriented perfectionism (15 items; e.g., "I set very high standards for myself") and FMPS personal standards (7 items; e.g., "If I do not set the highest standards for myself, I am likely to end up a second-rate person"), as in Dunkley et al. (2000). The reliability and validity of the DEQ (Blaney & Kutcher, 1991; Zuroff, Quinlan, & Blatt, 1990), MPS (Hewitt & Flett, 1991), and FMPS (Frost et al., 1990) have been well established. Coefficient alphas in the present study for socially prescribed perfectionism,

concern over mistakes, doubts about actions, self-oriented perfectionism, and personal standards were .84, .90, .72, .90, and .78, respectively. Coefficient alpha was not computed for DEQ self-criticism because, as recommended by Zuroff et al. (1990), this scale was scored using the factor weights derived from the initial female sample (Blatt et al., 1976) rather than summing a series of items.

Daily Affect. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is a 20-item scale that was used to measure daily positive and negative affect. The positive and negative affect scales each consist of 10 adjectives, and the daily ratings have been found to be reliable and valid measures of these two distinct dimensions of affect. Reliabilities (coefficient alphas) were computed for each of the seven days for the present study, and the average reliabilities over seven days were .89 for positive affect and .83 for negative affect. For the measurement and structural models, negative affect was indicated by the five content categories identified by Watson et al. (1988) (distressed, angry, fearful, guilty, jittery), which consist of two adjectives each. To improve the reliability (see Kishton & Widaman, 1994) and identifiability (see Kano, 1997) of the positive affect factor solution, the positive affect scale was parceled into three subscales by selecting every third item, yielding 1 four-item subscale and 2 three-item subscales.

Event Appraisals. To assist accurate recall of the event (see Folkman, 1992) and consistent with Stone and Neale's (1984) measure of daily coping, we first asked participants to provide a brief description of the most bothersome event or issue of the day, indicating what happened, where the event took place, who was involved, and what

made the event important. After describing the event, participants answered the following questions about the event or issue: "how unpleasant was the event or issue to you?" (1 = not at all to 11 exceptionally), "for how long were you bothered by the event or issue?" (1 = a very brief amount of time to 7 a very large amount of time), "how much control did you feel you had over handling the event or issue to your satisfaction?" (1 = none to 7 = very much), "to what extent did you think your handling of the event or issue would result in criticism from another significant person(s)?" (1 = not at all to 7 = very much), and "how stressful was the event or issue for you?" (1 = not at all to 11 = exceptionally). For the measurement and structural models, the global appraisal items (i.e., unpleasantness, duration, stressfulness) reflecting the severity, duration, or both of the event were used as indicators of the latent construct, daily event stress.

The events were coded into academic, social, and general categories using the items of the Academic, Social, and General scales of the General, Academic, Social Hassles Scale for Students (GASHSS; Blankstein & Flett, 1993) as reference points. The three context categories were not coded mutually exclusively. Examples of how reported events were coded into the variables academic, social, and general, respectively, are "received bad grade on mid-term exam" (1,0,0), "argument with boyfriend/girlfriend" (0,1,0), and "household chores" (0,0,1). The first author and a research assistant independently coded the events of a random sample of 10 participants (70 events) and agreed on the classification of 66 of the 70 events (94%), with all the disagreements concerning the categorization of general events. Having established reliability, the remainder of the events were coded by the first author.

disengagement having a low coefficient alpha) and convergent and discriminant validity (Carver et al., 1989). The average reliabilities over seven days for the present study were moderate to large for behavioral disengagement (.79), denial (.81), active coping (.85), planning (.87), suppression of competing activities (.81), positive reinterpretation and growth (.74), and self-blame (.68) and low for the mental disengagement scale (.52).

Social Support. After the coping section, participants answered questions about people in their environment who provided them with various kinds of help or support today in helping them handle the stressor. One item was included for each of five social provisions identified by Cutrona and Russell (1987): reliable alliance, attachment, guidance, social integration, and reassurance of worth. To enhance the distinction between various aspects of social support (see Dunkel-Schetter & Bennett, 1990), each social provision question consisted of three parts corresponding to perceived, wanted, and received support. The first part asked the extent to which each social provision was potentially available in helping to handle the stressor today if the participant were to need it, from 1 (strongly disagree) to 7 (strongly agree). For the second part, participants circled 'yes' or 'no' as to whether they wanted to receive that social provision in helping them handle the stressor today. For the third part, participants rated the extent to which they actually received the social provision today with regard to the stressor, from 1 (not at all) to 7 (very much). The items are listed in the Appendix.

Consistent with Cutrona (1989), we used the reliable alliance, attachment, and guidance items as indicators of perceived social support, as did Dunkley et al. (2000). Together these three items assess a sense of security and perceptions that others are

available to provide assistance with stressors (i.e., emotional, informational, instrumental). The perceived and received aspects of these provisions were moderately correlated (.31 to .44). In contrast to perceived support, received support for each provision was unrelated to negative or positive affect, which is consistent with other findings (see Dunkel-Schetter & Bennett, 1990). The social integration and reassurance of worth provisions were used in the analyses assessing the trait versus situational components of perceived and received social support.

Results

Descriptive Statistics

For descriptive purposes, we averaged appraisals, coping, perceived social support, received social support, negative affect, and positive affect across the 7 days (see Table 1). Generally, scores on the aggregated, situation-specific dispositional COPE scales were approximately one standard deviation lower than college student norms for the self-report dispositional version of the COPE (Carver et al., 1989). Scaled scores of the items of perceived social support were consistent with norms for the Social Provisions Scale (SPS; Cutrona & Russell, 1987), with the exception of the reliable alliance item, which was more than one standard deviation below previously reported norms. Scores on the perceived support items were also higher than the corresponding received support items. The means for the perfectionism measures were consistent with those reported previously (e.g., Hewitt & Flett, 1991; Stöber, 1998; Zuroff et al., 1990), as were the means reported for the PANAS (Watson et al., 1988). Totaled across days, participants reported academic (48%) and social events (45%) equally and more frequently than

general events (28%).[2] Participants reported events of each multiple category (i.e., some combination of academic, social, or general) with low frequency (8% or less).

Insert Table 1 About Here

The results are presented in three sections. First, we report the between- and within-person variability in the measures of event appraisals, coping, and perceived social support in order to assess the extent of dispositional versus situational influences. Then, the measurement and structural models examining daily event stress, coping, and perceived social support as mediators of the relation between perfectionism and both negative affect and positive affect are presented. Finally, we report the measurement and structural models which examine self-blame, perceived efficacy, and perceived criticism as mediators of the relation between EC perfectionism and avoidant coping.

Nested Analysis of Variance

For this multilevel design, in which daily assessments were nested within individuals, a nested analysis of variance (N-ANOVA; Winer, 1972) was used to assess the extent to which the variance in appraisals, coping, and social support was due to between-person and within-person influences. Following Schwartz et al.'s (1999) rule of thumb, a strong trait or individual differences influence would be reflected in approximately 50% of the variability in a kind of appraisal, coping, and social support being due to between-person influences; a strong situational influence would be reflected in approximately 10% of the variability being due to between-person influences; and

modest to moderate trait influences would be reflected in an amount of variance due to between-person influences between these two extremes. Maximum likelihood (ML) estimation, which allows for autocorrelated within-person residuals, was used to provide a more accurate estimate of the between-person and within-person variability in the outcomes (see Schwartz & Stone, 1998). Specifically, the PROC MIXED procedure in SAS (Littell, Milliken, Stroup, & Wolfinger, 1996; SAS Institute, 1996) was used to perform the N-ANOVAs, which allowed specification of a "spatial power" (i.e., first-order, autoregressive) structured covariance matrix (see Schwartz et al., 1999).

The 170 participants provided a total of 1175 daily reports of appraisals, coping, and social support. Table 2 presents the percentages of the variability in the appraisal, coping, and social support variables attributable to between- and within-person influences. The results show that there were modest to moderate individual differences or trait influences in the event appraisals (14-22%) and moderate trait influences in the coping scales (19-39%). Moderate to large trait influences were demonstrated for the perceived social support items (36-61%) and, conversely, modest to moderate trait influences were demonstrated for the received social support items (14-28%). These results are consistent with current conceptions of the role of dispositional versus situational influences in perceived and received social support, respectively, (see Pierce et al., 1997) and further supported the validity of our situation-specific measure of social support.

Insert Table 2 About Here

Measurement Model

Anderson and Gerbing (1988) argued for a two-step approach to structural equation modeling in which the measurement model should be tested and, if necessary, respecified before testing the structural model. Model testing was performed using Amos (Arbuckle, 1997), which uses ML estimation to examine the fit of models to their observed variance-covariance matrices. Following Hoyle and Panter's (1995) recommendations, we report multiple indices of fit that refer to two characteristics of the model, absolute and incremental fit. Generally, Goodness-of-Fit Index (GFI; absolute), Incremental Fit Index (IFI; Type-2 incremental), and Comparative Fit Index (CFI; Type-3 incremental) values over .90 (see Hoyle & Panter, 1995) and chi-square (χ^2) to degrees of freedom (df) ratios (absolute) less than two (Carmines & McIver, 1981) suggest acceptable fit.

CFA was used to test the measurement model. There were eight latent factors, each with two or more indicators: EC perfectionism, PS perfectionism, avoidant coping, problem-focused coping, event stress, perceived social support, negative affect, and positive affect. The latent constructs were allowed to intercorrelate freely. This model resulted in the following indices of fit: $\chi^2(271, N = 170) = 474.43$, $p < .001$; $\chi^2 / df = 1.75$; GFI = .84; IFI = .92; CFI = .92. Although GFI was below the nominal criterion of .90, it was not so low as to indicate a poorly fitting model. Moreover, since GFI is moderately

associated with sample size (Marsh, Balla, & MacDonald, 1988), .90 may be an unduly stringent criterion in the present study given the sample size of less than 200 (see Hoyle & Panter, 1995).

The factor loadings and correlations between the latent variables are presented in Table 3. Factor loadings were all significant ($p < .001$) and ranged from .56 to .96, demonstrating convergent validity. PS perfectionism and EC perfectionism were significantly correlated, but these variables showed very different relations with event stress, avoidant coping, perceived social support, negative affect, and positive affect.[3] In sum, CFA supported the construct validity of the measurement model. In addition, to compare the operationalization of EC perfectionism with versus without DEQ self-criticism as an indicator, the measurement model was also tested without DEQ self-criticism as an indicator of EC perfectionism. The factor loadings of FMPS concern over mistakes (.86), FMPS doubts about actions (.57), and MPS socially prescribed perfectionism (.67) on EC perfectionism essentially remained the same. Thus, because the magnitude of factor loadings are assumed to reflect whatever trait or construct underlies them (see Newcomb, 1990), the interpretation of the EC perfectionism latent construct was identical with or without DEQ self-criticism as an indicator.

Insert Table 3 About Here

Structural Models

Negative Affect Structural Model. The hypothesized model predicting negative

affect (see Figure 1) resulted in the following acceptable fit indices: χ^2 (220, N = 170) = 414.26, $p < .001$; χ^2 / df = 1.88; GFI = .83; IFI = .91; CFI = .91. Next, on the basis of Wald tests, paths that did not contribute significantly to the model were removed one at a time from the model, and the model was re-estimated each time. If the increase in chi-square was nonsignificant, the modification was accepted. First, the PS perfectionism to problem-focused coping path was nonsignificant and, after removing this path, PS perfectionism was not related to any variable in the model, so this variable was deleted.[4] Likewise, the perceived social support to problem-focused coping path was nonsignificant and problem-focused coping was also deleted. Finally, the nonsignificant EC perfectionism to event stress path and the social support to negative affect path were deleted from the model. The final model had these acceptable fit indices: χ^2 (130, N = 170) = 246.47, $p < .001$; χ^2 / df = 1.90; GFI = .87; IFI = .93; CFI = .93. The standardized regression coefficients for the significant paths of the negative affect structural model are presented in Table 4.

Insert Table 4 About Here

To test whether EC perfectionism had a unique relation with negative affect controlling for the relations of avoidant coping and event stress with negative affect, a partially mediated model, which included a path from EC perfectionism to negative affect, was also estimated. A nonsignificant difference between the fully mediated (i.e., no direct relation between EC perfectionism and negative affect) and partially mediated

models would indicate that the relation between EC perfectionism and negative affect was fully explained by avoidant coping, which was related to negative affect directly and indirectly through event stress. The partially mediated model had these fit indices: χ^2 (129, N = 170) = 239.41, $p < .001$; χ^2/ df = 1.86; GFI = .87; IFI = .93; CFI = .93; AIC = 323.41; BIC = 576.51. We followed Hoyle and Panter's (1995) recommendation that competing models be compared using fit indices that account for model complexity, such as chi-square difference tests and parsimony-adjusted indices. Parsimony-adjusted indices of fit compared between models were the Akaike information criterion (AIC; Akaike, 1987) and the Bayes information criterion (BIC; Schwarz, 1978), with smaller values preferred, and BIC tending more strongly to favor more parsimonious models (see Arbuckle, 1997). The chi-square difference test, $\chi^2_{diff}(1, N = 170) = 7.06$, $p < .01$, and AIC values (328.47 for the fully mediated model), but not the BIC values (575.55 for the fully mediated model), favored the partially mediated model. The partially mediated model (.562) and fully mediated model (.559) accounted for equivalent amounts of variance in negative affect. Furthermore, the avoidant coping to negative affect relation became nonsignificant in the partially mediated model. The partially mediated model did not improve the prediction of negative affect, nor was it as theoretically informative as the fully mediated model in explaining how EC perfectionism was linked to negative affect. Consequently, we adopted the fully mediated model which had essentially equal predictive power and greater explanatory power.

Finally, we assessed whether the results of the negative affect structural model were comparable between men and women. Using a multiple groups approach, an

invariant fully mediated model (i.e., factor loadings, variances, and regression weights of the fully mediated model constrained to be equal across gender) resulted in a reasonable fit to the data according to three of four fit indices, $\chi^2(279, N = 170) = 419.21$, $p < .001$, $\chi^2 / df = 1.50$; GFI = .80, IFI = .92, CFI = .92. The acceptable fit indices of the invariant model and the nonsignificant difference between the invariant model and an alternative model, in which parameter estimates were freely estimated for each gender, $\chi^2_{diff}(19, N = 170) = 24.80$, ns, suggested that the negative affect structural model was equivalent for men and women.

Positive Affect Structural Model. Starting with the model diagramed in Figure 1 (plus an additional path between problem-focused coping and positive affect), the same sequence of structural model analyses that were performed with negative affect were repeated with positive affect as the outcome variable. The nonsignificant paths from avoidant coping to positive affect, PS perfectionism to problem-focused coping (and, subsequently, the PS perfectionism latent variable), perceived social support to problem-focused coping, and EC perfectionism to event stress were deleted one at a time, which did not significantly alter chi-square. The model was re-estimated and resulted in these acceptable fit indices: $\chi^2 (146, N = 170) = 262.00$, $p < .001$; $\chi^2 / df = 1.79$; GFI = .86; IFI = .94; CFI = .94. The standardized regression coefficients for the significant paths of the positive affect structural model are presented in Table 4.

Next, a partially mediated model, which included a direct path from EC perfectionism to positive affect, was compared with the fully mediated model to see whether the relation between EC perfectionism and positive affect was fully explained by

perceived social support. The partially mediated model resulted in these fit indices: χ^2 (145, N = 170) = 260.62, $p < .001$; χ^2 / df = 1.80; GFI = .87; IFI = .94; CFI = .94; AIC = 350.62; BIC = 624.23. The chi-square difference test, χ^2_{diff} (1, N = 170) = 1.38, ns, AIC values (350.00 for the fully mediated model), and BIC values (617.53 for the fully mediated model) did not favor the partially mediated model, so, following Anderson and Gerbing's (1988) recommendation, the more parsimonious, fully mediated model was accepted.

Finally, we assessed whether the results of the positive affect structural model were comparable between men and women. The acceptable fit indices of the invariant model, χ^2 (312, N = 170) = 472.29, $p < .001$, χ^2 / df = 1.51; GFI = .80, IFI = .92, CFI = .92, and the nonsignificant difference between the invariant model and the freely estimated model, χ^2_{diff} (20, N = 170) = 19.69, ns, demonstrated that the fully mediated, structural model for positive affect was comparable across gender.

Negative Affect and Positive Affect in the Same Structural Model. A structural model with both negative affect and positive affect was tested to provide a summary of the mechanisms involved in the relation between EC perfectionism and daily affect. All significant paths found for each affect dimension separately were estimated in this model and remained significant with the presence of the other affect dimension in the model. The final model had the following acceptable fit indices: χ^2 (244, N = 170) = 441.34, $p < .001$, χ^2 / df = 1.81; GFI = .83, IFI = .92, CFI = .92. The results provide support for a fully mediated model to explain the relation between EC perfectionism and both negative and positive affect.

Figure 3 presents the significant standardized parameter estimates of the final structural model. The residual arrows indicate the proportion of variance in each endogenous latent variable unaccounted for by other variables in the model. The results can be grasped by referring to Figure 3 and considering first the paths leading from EC perfectionism to negative affect and then the paths leading to positive affect. EC perfectionism was associated with avoidant coping, and avoidant coping, in turn, was associated with negative affect both directly and indirectly through event stress. Thus, avoidant coping was the crucial mediator of the relation between EC perfectionism and negative affect. EC perfectionism was also negatively related to perceived social support which, in turn, was positively related to positive affect. Problem-focused coping also had a unique relation with positive affect.

Insert Figure 3 About Here

A Structural Model with Self-Blame Coping, Perceived Efficacy, and Perceived Criticism as Mediators between Evaluative Concerns Perfectionism and Avoidant Coping

Prior to testing the structural model, a measurement model was estimated to examine the zero-order correlations of self-blame coping, perceived efficacy, and perceived criticism with each other and with EC perfectionism, PS perfectionism, and avoidant coping. This model resulted in the following excellent indices of fit: χ^2 (42, N = 170) = 53.16, ns, χ^2 / df = 1.27; GFI = .95, IFI = .98, CFI = .98. As shown in Table 5, the significant correlations of self-blame coping, perceived efficacy, and perceived criticism

with both EC perfectionism and avoidant coping support their role as potential mediators (see Baron & Kenny, 1986). These results also provide further discriminant validity evidence for the two perfectionism factors, as PS perfectionism had only a small relation with self-blame and was unrelated to perceived efficacy and perceived criticism. Further, it should be mentioned that perceived criticism was unrelated to perceived social support ($r = -.05$, ns).

Insert Table 5 About Here

In testing whether the relation between EC perfectionism and avoidant coping was partially or fully mediated by self-blame, perceived efficacy, perceived criticism, or some combination of these, the partially mediated model, as shown in Figure 2, was tested and resulted in these excellent fit indices: χ^2 (29, N = 170) = 28.66, ns, χ^2 / df = .99; GFI = .97, IFI = 1.00, CFI = 1.00, AIC = 80.66, BIC = 222.06. This model was not significantly different from the fully mediated model, χ^2_{diff} (1, N = 170) = 1.82, ns, and AIC (80.48) and BIC (216.44) of the fully mediated model were not larger; thus, the fully mediated model was selected as the better model. Next, the nonsignificant regression paths from self-blame to perceived efficacy and from EC perfectionism to perceived criticism were removed from the model one at a time. The fully mediated model was re-estimated with these paths deleted and resulted in the following excellent fit indices: χ^2 (32, N = 170) = 32.80, ns, χ^2 / df = 1.03; GFI = .96, IFI = 1.00, CFI = 1.00, AIC = 78.80, BIC = 203.88. The acceptable fit indices of the gender invariant model, χ^2 (76, N = 170) = 75.33, ns, χ^2 /

df = .99; GFI = .92, IFI = 1.00, CFI = 1.00, and the nonsignificant difference between the invariant model and the freely estimated model, χ^2_{diff} (12, N = 170) = 14.19, ns, suggested that the results of the final structural model were comparable between men and women. The results provide clear support for a fully mediated model to explain the relation between EC perfectionism and both avoidant coping and perceived criticism.

Figure 4 presents the significant standardized parameter estimates of the final structural model of the relation between EC perfectionism and avoidant coping. The largest and most important of the mediational pathways was from EC perfectionism to self-blame. EC perfectionism was associated with self-blame which, in turn, was associated with avoidant coping both directly and indirectly through perceived criticism.[5] As well, EC perfectionism was related to low levels of perceived efficacy, which had a unique relation with avoidant coping.[6]

Insert Figure 4 About Here

Discussion

The present study examined whether or not stress appraisals, avoidant coping, and perceived social support can be thought of as trait correlates of evaluative concerns perfectionism which mediate its relations with high daily negative affect and low daily positive affect. The results are discussed in four sections. First, we consider the importance of distinguishing between EC perfectionism and PS perfectionism. Second, we consider three methodological issues raised by considering cognitive appraisals and

coping as traits. Third, the mediational models explaining EC perfectionism's association with high negative affect and low positive affect are discussed. Finally, we discuss the mediational model explaining the relation between EC perfectionism and avoidant coping.

The Distinction between Evaluative Concerns Perfectionism and Personal Standards Perfectionism

The CFA results replicated past findings demonstrating the utility of considering perfectionism as consisting of two dimensions (e.g., Dunkley et al., 2000; Frost et al., 1993; Rice et al., 1998), which we refer to as evaluative concerns perfectionism and personal standards perfectionism. As well, the present study (see Table 3) strongly identified Blatt's (1974; Blatt et al., 1976) construct of self-criticism, a depressive personality style from a separate yet related literature, with the EC dimension of perfectionism and distinguished it from PS perfectionism, which was highly indicated by MPS self-oriented perfectionism (see Dunkley & Blankstein, 2000). This link underscores the need for future scholarly research to organize and integrate more fully the large perfectionism and self-criticism literatures, which would be a major benefit to future empirical research in the field (see Watson & Clark, 1984). EC perfectionism, in contrast to PS perfectionism, was moderately to strongly related to several aggregated, situation-specific measures (i.e., daily event stress, avoidant coping, perceived social support (negatively), self-blame, perceived criticism), which suggests that maladaptive traits are more prominent with this dimension of perfectionism. In addition, the present study corroborated previous findings (Mongrain & Zuroff, 1995; Zuroff et al., 1995) in

demonstrating an association between EC perfectionism and higher levels of negative affect and lower levels of positive affect averaged over seven days.

These findings are consistent with the possibility that EC perfectionists are vulnerable to depression onset, maintenance, and poor therapy outcome because they experience intense, prolonged negative affect without the protective effects of positive affect to interrupt their spiral into clinical depression (see Folkman & Moskowitz, 2000). Moreover, EC perfectionists closely resemble the chronically dysphoric group of individuals described by Depue and Monroe (1986), whose disturbance is highly cognitive and impacted on by minor events, perceived coping efficacy, and adequacy of coping patterns and social support. In contrast, PS perfectionism only had weak associations with aggregated daily event stress, self-blame, and negative affect, which suggests that researchers should look to situations or circumstances, rather than traits, to assess the potential maladaptiveness of PS perfectionism (e.g., Hewitt et al., 1996).

Methodological Issues in the Assessment of Daily Event Appraisals, Coping, and Perceived Social Support

Before testing the structural models, we addressed three methodological issues underlying consideration of cognitive appraisals and coping as traits. These issues included the role of trait versus situational influences in appraisals and coping; retrospective versus aggregated situation-specific trait measures; and internal consistency in the assessment of situation-specific coping.

Dispositional versus Situational Influences in Appraisals and Coping. We found evidence for the existence of dispositional influences in event stress appraisals, perceived

social support appraisals, and coping. A small to moderate amount (14-22%) of the variability in appraisals of the most bothersome event or issue was attributed to between-person differences. In contrast, a large 36-61% of the variability in perceived social support appraisals was due to between-person influences. Thus, event appraisals appear more sensitive to conditions in the environment (Folkman et al., 1986), whereas appraisals of available social resources (see Lazarus & Folkman, 1984) might be more heavily influenced by personality-like qualities (see Pierce et al., 1997).

A moderate amount of variance (19-39%) in coping was due to between-person influences. In assessing the existence of coping dispositions, it is informative to examine the generalizability of the results of Schwartz et al.'s (1999) study, which had participants monitor their stress and coping many times in a span of approximately 48 hours, to the results of the present study, which assessed coping daily for a period of seven days. The 19-31% of between-person variability in the avoidant coping measures was similar to that reported for distraction (19%) in Schwartz et al. (1999), but lower than that reported for escape-avoidance (42%). The amount of between-person variability in the problem-focused coping measures (21-29%) was comparable to that reported by Schwartz et al. (1999) for problem solving (25%), planning (19%), and direct action (15%). The influence of between-person differences in positive reinterpretation and growth (39%) in the present study were larger than those reported by Schwartz et al. (1999) for both measures of positive reappraisal (25% and 16%). Thus, although coping scales generally show moderate levels of stability, certain coping strategies might be more heavily influenced by personality factors than other coping strategies (see Folkman et al., 1986).

In summary, these results attest to the importance of considering both situational and trait influences for understanding the critical role of cognitive appraisal and coping processes in stress and adaptation (e.g., Lazarus & Folkman, 1984). The notion that changes in cognitive appraisals and coping occur across situational contexts in individuals who can also be characterized as having stable traits of cognitive appraisals and coping is consistent with the current view of traits in general (see Moskowitz, Brown, & Coté, 1997).

Retrospective versus Situation-Specific Trait Measures. Researchers have argued that aggregating situational reports can be a more valid method for assessing traits than retrospective, summary questionnaires (see Epstein, 1979; Moskowitz, 1986; Schwartz et al., 1999). To our knowledge, this is the first study to use such an approach with cognitive appraisal variables and only the second study, after Schwartz et al. (1999), to use such an approach with coping variables. The zero-order correlations between EC perfectionism and retrospective, dispositional measures of avoidant coping (r = .63 in sample 1, r = .56 in sample 2) and perceived social support (r = -.48 in sample 1, r = -.42 in sample 2) in Dunkley et al. (2000) were not larger than the present study's correlations between these variables using aggregated, situation-specific measures of coping and perceived social support. This finding runs contrary to the suggestion that relations between personality and retrospective, summary questionnaires might be inflated due to memory biases and distortions (e.g., Bolger & Eckenrode, 1991; David & Suls, 1999). The implication that aggregating situation-specific measures adds little in validity to retrospective, summary questionnaires in assessing traits for EC perfectionists is in

keeping with evidence which suggests that individuals experiencing depressive affect exhibit more accurate perceptions and evaluations (see Taylor & Brown, 1988).

On the other hand, in contrast to the relation between PS perfectionism and retrospective, dispositional problem-focused coping reported in Dunkley et al. (2000) and other studies (e.g., Dunkley & Blankstein, 2000; Flett et al., 1994), no relation was found between PS perfectionism and aggregated, situation-specific problem-focused coping in the present study. Likewise, in contrast to Frost et al. (1993), no relation was found between PS perfectionism and aggregated positive affect. Thus, PS perfectionists might demonstrate positive distortions in their recollections of certain aspects of functioning and, hence, the use of situation-specific or daily measures might add incremental validity to retrospective, summary questionnaires for examining positive correlates of PS perfectionism. Considering that PS perfectionism indicators are often unrelated to depression, this suggestion is consistent with evidence which suggests that individuals not characterized by depression exhibit exaggerated perceptions of control or mastery (see Taylor & Brown, 1988).

Internal Consistency in the Assessment of Situation-Specific Coping. The present study also addressed the feasibility of combining situation-specific coping responses into internally consistent, higher-order variables using factor analytic methods (see Folkman, 1992; Stone & Kennedy-Moore, 1992). The high factor loadings of the specified situation-specific trait coping measures on the avoidant coping and problem-focused coping latent constructs indicated that it was indeed possible to create internally consistent coping variables. The content of the items for each of the COPE scales was

guided by theory and, hence, the items directly assessed the underlying meaning of coping responses, such as behavioral disengagement (e.g., "I gave up the attempt to get what I want," "I just gave up trying to reach my goal") (Carver et al., 1989). Thus, the results support the use of higher-order coping constructs as an alternative approach to analyzing specific thoughts and behaviors separately when dealing with situation-specific reports of coping (see Stone & Kennedy-Moore, 1992). Likewise, the support for the event stress and perceived social support latent constructs, indicated by the global (i.e., unpleasantness, duration, stressfulness) and social provision (i.e., reliable alliance, attachment, guidance) appraisals, respectively, demonstrated the feasibility of creating a smaller and more manageable set of appraisal variables which was less cumbersome than analyzing and reporting such findings on an item-by-item basis (see Watson & Hubbard, 1996).

Specificity in the Mediating Components between Evaluative Concerns Perfectionism and Negative and Positive Affect

The present study provided further evidence that negative and positive affect are two largely independent dimensions of affect that reflect distinguishable processes and relate to different classes of variables (e.g., Diener et al., 1995; Watson, 1988). Using Dunkley et al.'s (2000) structural model (see Figure 1) to predict negative affect and positive affect separately, we were able to partition the mediating trait correlates of EC perfectionism into those that were specific to daily negative affect and positive affect, respectively. Specifically, the relation between EC perfectionism and negative affect was fully mediated by avoidant coping, which was related to negative affect directly and

indirectly through its positive association with event stress (see Figure 3). This finding corroborates other evidence which suggests that the relation between EC perfectionism and both distress and daily stress is mediated by the tendency of these individuals to engage in dysfunctional, avoidant kinds of coping, such as disengagement and denial (Dunkley & Blankstein, 2000; Dunkley et al., 2000). Moreover, this result is in keeping with evidence which suggests that self-critical individuals engage in ineffective self-regulation strategies which serve to prolong their negative affect (Fichman et al., 1999). In contrast, perceived social support was the primary mediator in the fully mediated relation between EC perfectionism and positive affect. This is consistent with Dunkley et al. (2000) in supporting EC perfectionists' negative appraisal of the availability of social resources as a critical mediator which hinders their adjustment to stress. Overall, these findings are compatible with the possibility that "both lack of social support and passive, avoidant coping are related to depression onset, maintenance, and therapy outcome" (Ingram, Miranda, & Segal, 1998, p. 43).

There were two main differences between the present results and those of Dunkley et al. (2000) which might be best explained by our use of different stress and outcome measures.[7] First, there was no unique connection between EC perfectionism and stress appraisals of the most bothersome event of the day, in apparent contradiction to Dunkley et al. (2000) finding a unique relation between EC perfectionism and cumulative daily hassles. In another report (Dunkley & Zuroff, 2000), appraisals of the single most bothersome event of the day and cumulative daily hassles are uniquely related to fluctuations in negative affect, which suggests that these are independent components of

daily stress. Second, perceived social support was related to positive affect, but was not uniquely related to negative affect, which might appear inconsistent with its unique relation with the distress latent variable in Dunkley et al. (2000). However, the distress latent construct in Dunkley et al. (2000) was a considerably broader variable than negative affect as assessed in the present study; its indicators included depressive symptoms and anhedonic depression from the Mood and Anxiety Symptom Questionnaire (MASQ; Watson & Clark, 1991). Since measures of positive affect are related (negatively) much more strongly and consistently to depressive than to anxious symptoms (see Watson et al., 1995), the distress variable may have reflected the presence of both high negative affect and low positive affect.

Given that negative affect is nonspecific and reflects the general presence of anxious and depressive symptoms (Clark & Watson, 1991), avoidant coping might be the element of EC perfectionism that explains its association with different clinical conditions that are often comorbid. Indeed, several studies indicate that EC perfectionism is not specific to depression and cuts across a wide variety of disorders, including social phobia (Cox et al., 2000), obsessive-compulsive disorder (Frost & Steketee, 1997), and eating disorders (Bastiani, Rao, Weltzin, & Kaye, 1995; Steiger, Goldstein, Mongrain, & Van der Feen, 1990). Additionally, the finding that perceived social support was not related to the perceived potential for criticism from others is consistent with the contention that social support and social negativity are independent (e.g., Ruehlman & Wolchik, 1988). Because the perceived potential for criticism from others is a defining component of certain anxiety disorders, particularly social phobia (American Psychiatric

Association, 1994), this interpersonal appraisal dimension could play a role in EC perfectionism's association with a wide variety of clinical conditions, whereas low perceived social support might be specific to the experience of depression in EC perfectionists.

Evaluative Concerns Perfectionism and Avoidant Coping: Self-Blame and Perceived Efficacy as Mediators

We found that the relation between EC perfectionism and avoidant coping was fully mediated by low perceived efficacy and self-blame, with the latter related to avoidant coping both directly and indirectly through perceived criticism (see Figure 4). Moreover, perceived potential for criticism from others was not supported as an explanatory variable of avoidant coping in EC perfectionists. The association between EC perfectionism and self-blame is consistent with other findings (Hewitt & Flett, 1991; Vettese & Mongrain, 2000), as is the relation between EC perfectionism and perceived efficacy (Flett, Hewitt, Blankstein et al., 1996). Thus, in stressful situations, EC perfectionists blame their perceived deficiencies, becoming preoccupied with their self-worth, which partly explains their use of avoidant coping (see Dweck & Sorich, 1999). As well, self-blame fully explained the relation between EC perfectionism and perceived criticism, which is consistent with evidence which suggests that cognitions about the self and others are intimately linked (see Brand, Lakey, & Berman, 1995). In line with blaming their abilities, EC perfectionists lack confidence in their ability to handle stressful situations adequately, which also partly explains their avoidant coping tendencies.

Clinical Implications

It is important to consider the clinical implications of these SEM results, particularly given recent suggestions that coping research has offered very little to clinicians and clinical researchers (Somerfield & McCrae, 2000; Coyne & Racioppo, 2000). The broad implications for intervention of the present study are: (1) to help EC perfectionists feel less negative affect and decrease the negative impact of the stressful events they experience, try to reduce their tendency to engage in avoidant coping; and (2) to help them feel more positive affect, try to increase their perceptions of social support availability. The underlying premise in this intervention approach is that these cognitive and behavioral aspects of perfectionism are more malleable than the personality trait itself (see Cantor, 1990; Procidano & Smith, 1997) and could be appropriate targets in an intervention to treat depressed clients who are perfectionists (see Dunkley et al., 2000).

Clinicians seeking to reduce EC perfectionists' avoidant coping in stressful situations might want to address the tendency of EC perfectionists to blame and denigrate their ability. This intervention could involve challenging cognitive distortions regarding the self (e.g., Beck, Rush, Emery, & Shaw, 1979). As well, since parental criticism is core to the etiology of perfectionism (Frost et al., 1990; Koestner, Zuroff, & Powers, 1991), helping the EC perfectionist attribute these negative self-perceptions to external factors (e.g., prolonged exposure to parental criticism), rather than deep-seated personal inadequacies, might be useful. Clinicians might also want to address the tendency of EC perfectionists to have negative perceptions about their ability to handle stressful situations adequately (cf. Folkman et al., 1991). Clues for possible ways to increase perceptions of

social support in EC perfectionists might be found in studies indicating that socially prescribed perfectionism is associated with lower levels of social self-esteem and self-perceived social skills (Flett, Hewitt, & De Rosa, 1996), and that self-criticism is linked with negative biases in the perception of social interactions (Mongrain, Vettese, Shuster, & Kendal, 1998). Thus, an intervention directed at increasing perceived social support in EC perfectionists could involve improving social competence and helping them modify negative biases in interpreting supportive behaviors (see Brand et al., 1995).

Limitations and Directions for Future Research

Although the methodology used in this study was an advance over previous studies relying on retrospective, global, one-occasion self-reports, there were some limitations and areas that warrant attention in future research. First, in this report, we used a between-persons approach rather than examining relations between stress, coping, and affect within-persons. Because these two levels of analysis address two different questions (see Tennen, Affleck, Armeli, & Carney, 2000), a separate report (Dunkley & Zuroff, 2000) demonstrates that fluctuations in daily negative and positive affect covary with fluctuations in stress, cognitive appraisals, and coping within individuals. Second, as the measures were completed at the end of the day, we could not ascertain the direction of causality among variables, and it is possible, for example, that affect influenced the reports of event appraisals, coping, and perceived social support. Assessing participants' moods at the beginning of the day would be beneficial in determining the direction of causality of the relations observed in this study. Third, although the daily data collection reduced recall biases and distortions, participants' recollection of events still might have

been distorted, particularly if hours had elapsed since the event occurred. It would be useful to replicate the present findings, particularly in assessing traits, with ecological momentary assessment (EMA) methods (Stone & Shiffman, 1994) which collect information more frequently. Fourth, we assessed appraisals and coping only once per day and, therefore, were unable to capture the dynamics of appraisal and coping processes as they are experienced during the day (e.g., Lazarus & Folkman, 1984). Primary appraisals, which play an important role in determining whether events are labeled as stressful, are likely very rapid and would require more frequent repeated measurements than is perhaps feasible with diary methodologies. Cognitive priming studies in which individuals are exposed to experimental stimuli and their subsequent cognitive reactions are examined would be useful to better inspect appraisals as stressful events unfold (see Ingram et al., 1998). Finally, the present results are based on a college student population and their generalizability to clinical populations needs to be examined.

Conclusion

The present study supports the growing recognition of the influence of personality in the stress and coping process (see Somerfield & McCrae, 2000). It is clear that individual differences exist in event stress appraisals, coping styles, and perceived social support appraisals, accounting for 14-61% of the variance in daily assessments. Furthermore, the relation between EC perfectionism and both high levels of daily negative affect and low levels of daily positive affect can be explained by its association with a number of maladaptive tendencies, including daily event stress, self-blame, low perceived efficacy, perceived criticism, avoidant coping, and negative perceptions of

social support. We believe the present findings are potentially appealing to practitioners who are eager to use empirically-based advice to inform their approach to treating perfectionists.

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Appendix

Reliable Alliance, Attachment, Guidance, Social Integration, and Reassurance of Worth Items from the Situation-Specific Social Support Measure

Reliable Alliance

1a) With regard to this stressor, there are people I could have counted on to come to my assistance if I really needed it.

1b) With regard to this stressor, I wanted another person(s) to come to my assistance.

1c) With regard to this stressor, to what extent did another person(s) come to your assistance?

Attachment

2a) With regard to this stressor, I have close relationships that could have provided me with a sense of emotional security and well-being if I were upset.

2b) With regard to this stressor, I wanted to have interactions with others to provide me with a sense of emotional security and well-being.

2c) With regard to this stressor, to what extent did you have interactions with others which provided you with a sense of emotional security and well-being?

Guidance

3a) With regard to this stressor, there is a trustworthy person I could have turned to for advice or guidance if I were having problems.

3b) With regard to this stressor, I wanted advice or guidance from another person.

(Appendix continues)

Appendix, continued

3c) With regard to this stressor, to what extent did another person(s) provide advice or guidance?

Social Integration

4a) With regard to this stressor, there are people who could have enjoyed the same social activities I do if I needed to be distracted.

4b) With regard to this stressor, I wanted to participate in some social activity with another person(s) to help get my mind off things.

4c) With regard to this stressor, to what extent did you participate in some social activity with another person(s) to help get your mind off things?

Reassurance of Worth

5a) With regard to this stressor, I have relationships where my abilities and strengths could have been recognized if I were having self-doubts.

5b) With regard to this stressor, I wanted to have interactions with others where my abilities and strengths were recognized.

5c) With regard to this stressor, to what extent did you have interactions with others where your abilities and strengths were recognized?

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This research was supported by a Social Sciences and Humanities Research Council (Canada) Grant Sub-Committee Sponsored Graduate Student awarded to the first author and a Social Sciences and Humanities Research Council (Canada) General Research Grant awarded to the second author. The authors gratefully acknowledge Virginia Fenwick for her efforts in the data collection. The authors thank Jennifer Archambault, David D'Alessandro, and Veronika Huta for their helpful comments on earlier drafts of this manuscript.

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Footnotes

[1] Significant correlations less than .30 will be referred to as small/weak, correlations ranging from .30 to .49 will be referred to as moderate, and correlations .50 or greater will be referred to as large/strong.

[2] The total number of academic, social, and general events for the participants who did not complete all seven days of diary entry were scaled to scores out of seven.

[3] We examined the relation between EC perfectionism and PS perfectionism and the frequency of types of most bothersome daily events reported. Thus, each participant had total scores (0-7) for academic, social, and general stressors (scaled for participants with missing data) which were examined in correlational analyses with EC perfectionism and PS perfectionism. The indicator variables of each perfectionism factor were standardized and the factor scores were used to form the EC perfectionism and PS perfectionism variables for these analyses. EC perfectionism was not associated with any event type, but PS perfectionism had a small association with the frequency of academic events, $r = .16$, $p < .05$.

[4] Before deleting the PS perfectionism latent variable from the model, paths were estimated between PS perfectionism and both event stress and negative affect, with which it had significant zero-order correlations (Table 3). Neither of these paths were significant controlling for the influence of the other variables in the model, so the PS perfectionism latent variable was deleted from the model.

[5] An alternative model was fit to the data to test whether the relation between EC perfectionism and self-blame was fully mediated by perceived criticism. That is, a path

results between the present study and Dunkley et al. (2000) were not due to using DEQ self-criticism as an additional indicator of EC perfectionism.

Table 1

Descriptive Statistics

Measures	M	SD
Evaluative Concerns Perfectionism		
Self-Criticism (DEQ)	0.06	1.04
Socially Prescribed Perfectionism (MPS)	51.41	13.57
Concern Over Mistakes (FMPS)	21.91	8.12
Doubts About Actions (FMPS)	10.85	3.61
Personal Standards Perfectionism		
Self-Oriented Perfectionism (MPS)	70.01	16.14
Personal Standards (FMPS)	24.95	5.12
Event Stressor Type		
General	1.98	1.47
Academic	3.33	1.70
Social	3.18	1.61
Event Stress Appraisals		
Unpleasantness	7.17	1.49
Stressfulness	6.54	1.63
Duration	4.39	0.91
Perceived Efficacy	3.49	0.94
Perceived Potential for Criticism from Others	3.12	1.13
Coping		
Mental Disengagement	6.93	1.60
Behavioral Disengagement	5.75	1.45
Denial	4.98	1.14
Active Coping	8.76	2.06
Planning	9.67	2.34
Suppression of Competing Activities	7.48	1.97
Self-Blame	7.49	2.00
Positive Reinterpretation and Growth	8.01	2.07

(Table 1 continues)

Table 1, continued

Measures	M	SD
Perceived Social Support		
Reliable Alliance	4.85	1.26
Attachment	5.41	1.23
Guidance	5.41	1.15
Social Integration	5.44	1.35
Reassurance of Worth	5.28	1.15
Received Social Support		
Reliable Alliance	2.89	1.11
Attachment	3.30	1.18
Guidance	2.81	1.11
Social Integration	3.37	1.29
Reassurance of Worth	2.86	1.21
Negative Affect	18.97	4.63
Positive Affect	26.94	5.73

Note. DEQ = Depressive Experiences Questionnaire. MPS = Multidimensional Perfectionism Scale. FMPS = Frost Multidimensional Perfectionism Scale.

Table 2

Percentages of Between- and Within-Person Variability in the Daily Measures of Event Stress Appraisals, Coping, Perceived Social Support, Negative Affect, and Positive Affect

Measure	% variance	
	Between persons	Within persons
Event Stress Appraisals		
Unpleasantness	17.9	82.1
Stressfulness	22.4	77.6
Duration	16.0	84.0
Other Event Appraisals		
Perceived Efficacy	14.1	85.9
Perceived Criticism	19.4	80.6
Avoidant Coping		
Mental Disengagement	30.9	69.1
Behavioral Disengagement	18.5	81.5
Denial	19.4	80.6
Problem-Focused Coping		
Active Coping	23.2	76.8
Planning	28.5	71.5
Suppression of Cmp Act	21.2	78.8
Other Coping		
Self-Blame	35.6	64.4
Positive Reint and Grwth	38.6	61.4
Perceived Social Support		
Reliable Alliance	36.0	64.0
Attachment	55.0	45.0
Guidance	47.6	52.4
Other Perceived Social Support		
Social Integration	60.9	39.1
Reassurance of Worth	51.2	48.8

(Table 2 continues)

Table 2, continued

Measure	% variance: Between persons	% variance: Within persons
Received Social Support		
Reliable Alliance	13.6	86.4
Attachment	21.9	78.1
Guidance	18.2	81.8
Other Received Social Support		
Social Integration	19.8	80.2
Reassurance of Worth	27.9	72.1

Note. Cmp Act = Competing Activities. Reint and Grwth = Reinterpretation and Growth. "Other" categories represent measures that were not used to indicate latent constructs in the measurement and structural models.

Table 3

Measurement Model Factor Loadings and Correlations

Variables	1	2	3	4	5	6	7	8
				Factor Loadings				
Evaluative concerns pft								
Self-Criticism	.87							
Socially Prescribed Pft	.67							
Concern Over Mistakes	.80							
Doubts About Actions	.61							
Personal standards pft								
Self-Oriented Pft		.88						
Personal Standards		.70						
Event stress								
Event Stressfulness			.94					
Event Unpleasantness			.88					
Event Duration			.80					
Avoidant coping								
Mental Disengagement				.57				
Behavioral Disengagement				.71				
Denial				.65				
Problem-focused coping								
Active Coping					.93			
Planning					.85			
Suppression of Cmp Act					.76			
Perceived social support								
Reliable Alliance						.84		
Attachment						.90		
Guidance						.96		

(Table 3 continues)

Table 3, continued

Variables	1	2	3	4	5	6	7	8
Negative affect								
Distressed							.88	
Angry							.67	
Fearful							.74	
Guilty							.56	
Jittery							.58	
Positive affect								
Positive Affect #1								.90
Positive Affect #2								.93
Positive Affect #3								.85

Correlations

Variables	1	2	3	4	5	6	7	8
1. Evaluative concerns pft	-							
2. Personal standards pft	.60***	-						
3. Event stress	.33***	.18*	-					
4. Avoidant coping	.54***	.10	.39***	-				
5. Problem-focused cp	-.14	.10	.15	.04	-			
6. Perceived social spt	-.53***	-.16	-.10	-.34**	.07	-		
7. Negative affect	.51***	.21*	.68***	.50***	.14	-.24**	-	
8. Positive affect	-.31***	-.09	-.15	-.11	.42***	.27**	-.26**	-

Note. 1 = Evaluative concerns perfectionism. 2 = Personal standards perfectionism. 3 = Event stress. 4 = Avoidant coping. 5 = Problem-focused coping. 6 = Perceived social support. 7 = Negative affect. 8 = Positive affect.

Pft = Perfectionism. Cmp Act = Competing Activities. Cp = Coping. Spt = Support.

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

Table 4

Standardized Regression Coefficients for the Significant Paths of the Separate Negative and Positive Affect Structural Models

Paths	Negative Affect β	Positive Affect β
EC perfectionism --> avoidant coping	.62	.58
EC perfectionism --> perceived social support	-.54	-.54
Avoidant coping --> event stress	.43	.42
Avoidant coping --> negative affect	.35	-
Event stress --> negative affect	.53	-
Event stress --> positive affect	-	-.18
Perceived social support --> positive affect	-	.23
Problem-focused coping --> positive affect	-	.43

Note. EC = Evaluative concerns.

Table 5

Measurement Model Correlations between Self-Blame Coping, Perceived Efficacy, and Perceived Criticism and Evaluative Concerns Perfectionism, Personal Standards Perfectionism, and Avoidant Coping

Variables	Self-Blame	Perceived Efficacy	Perceived Criticism
Evaluative concerns perfectionism	.54***	-.28**	.36***
Personal standards perfectionism	.18*	-.15	-.02
Avoidant coping	.72***	-.36***	.53***
Self-blame	-	-.18*	.47***
Perceived efficacy	-	-	-.17*

Note. * $p < .05$. *** $p < .001$.

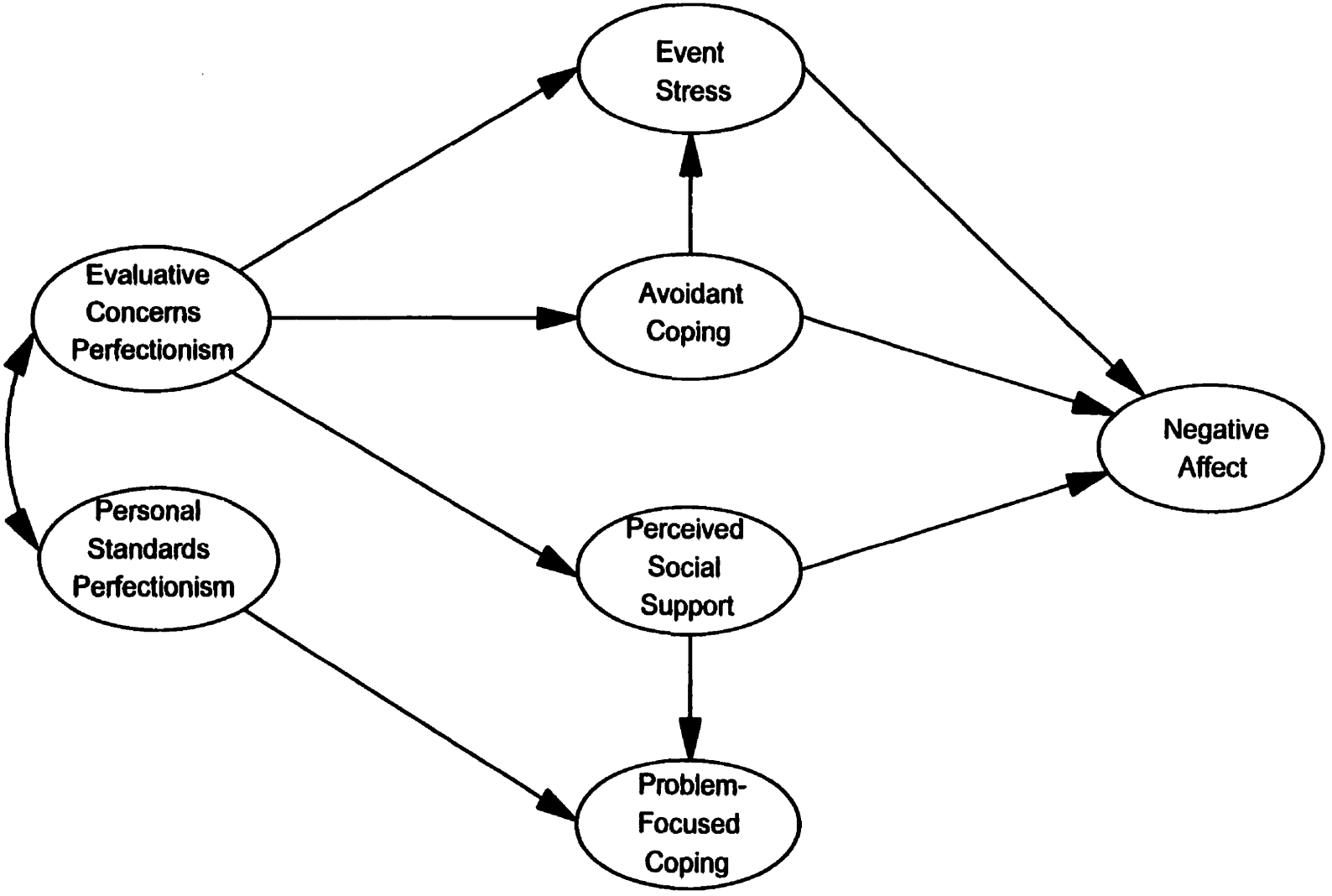
Figure Captions

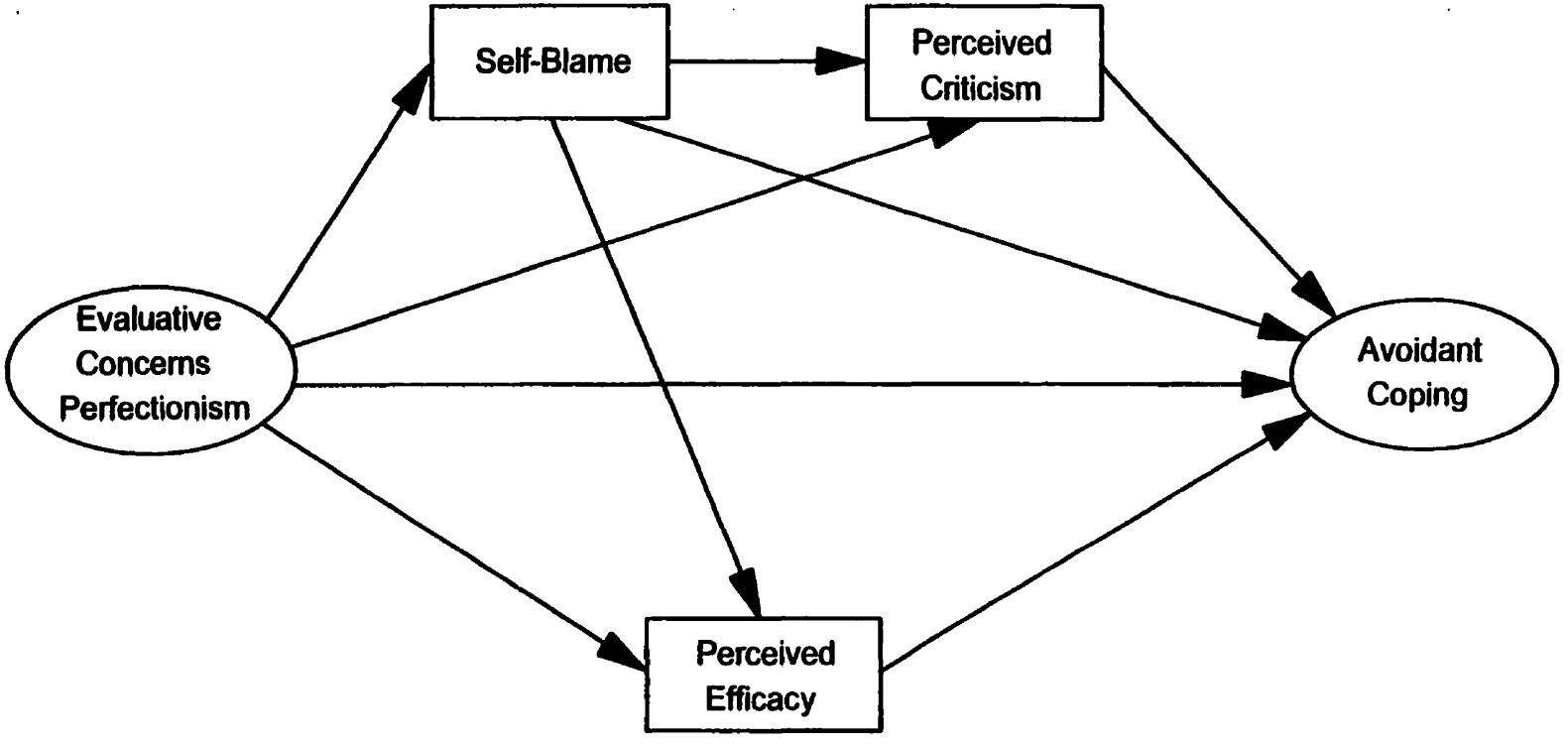
Figure 1. Hypothesized structural model, based on Dunkley et al. (2000), relating evaluative concerns perfectionism, personal standards perfectionism, event stress, avoidant coping, problem-focused coping, perceived social support, and negative affect.

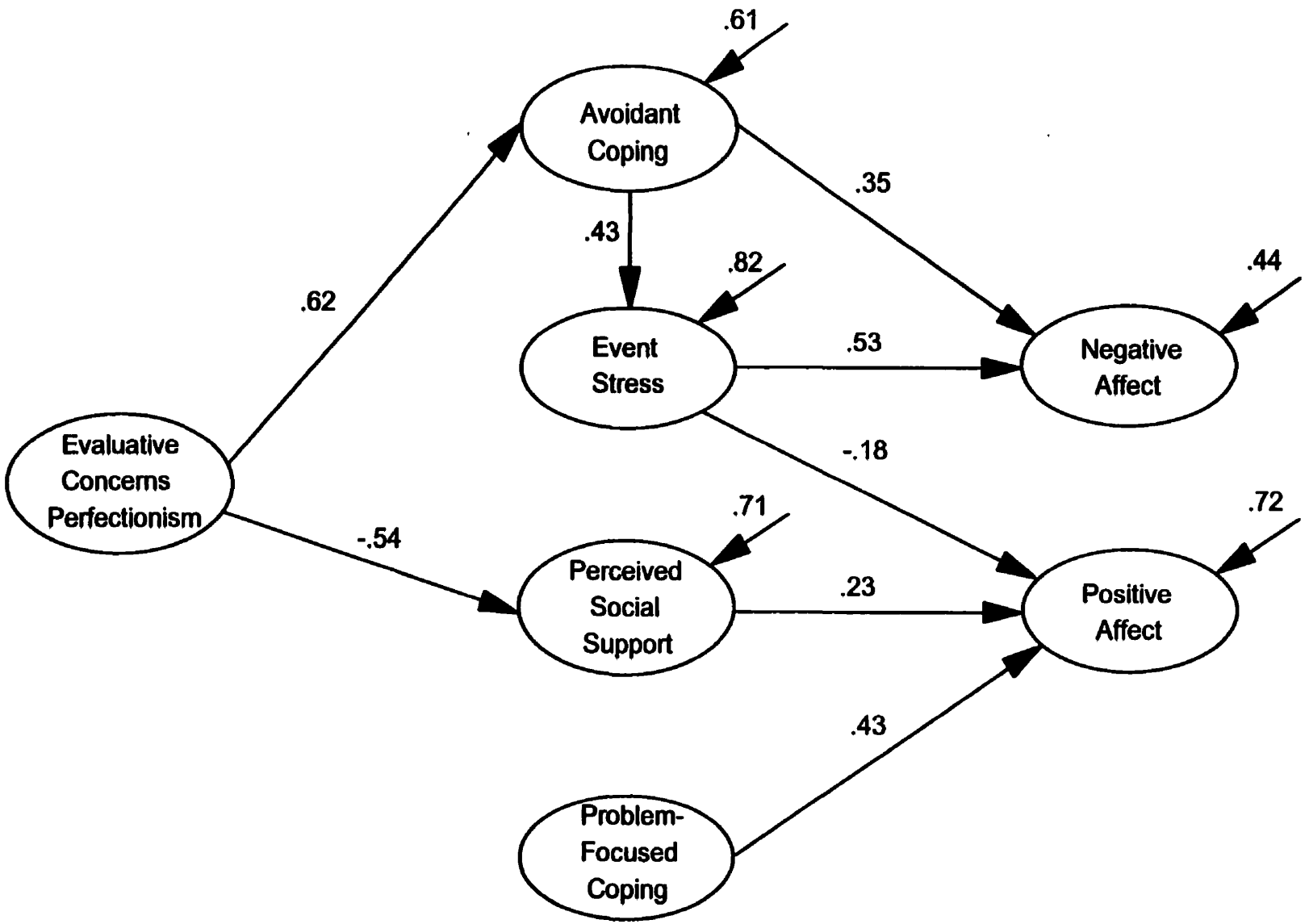
Figure 2. Hypothesized structural model relating evaluative concerns perfectionism, self-blame, perceived efficacy, perceived criticism, and avoidant coping. Latent variables are represented by oval-shaped line and measured variables are represented by rectangular-shaped line.

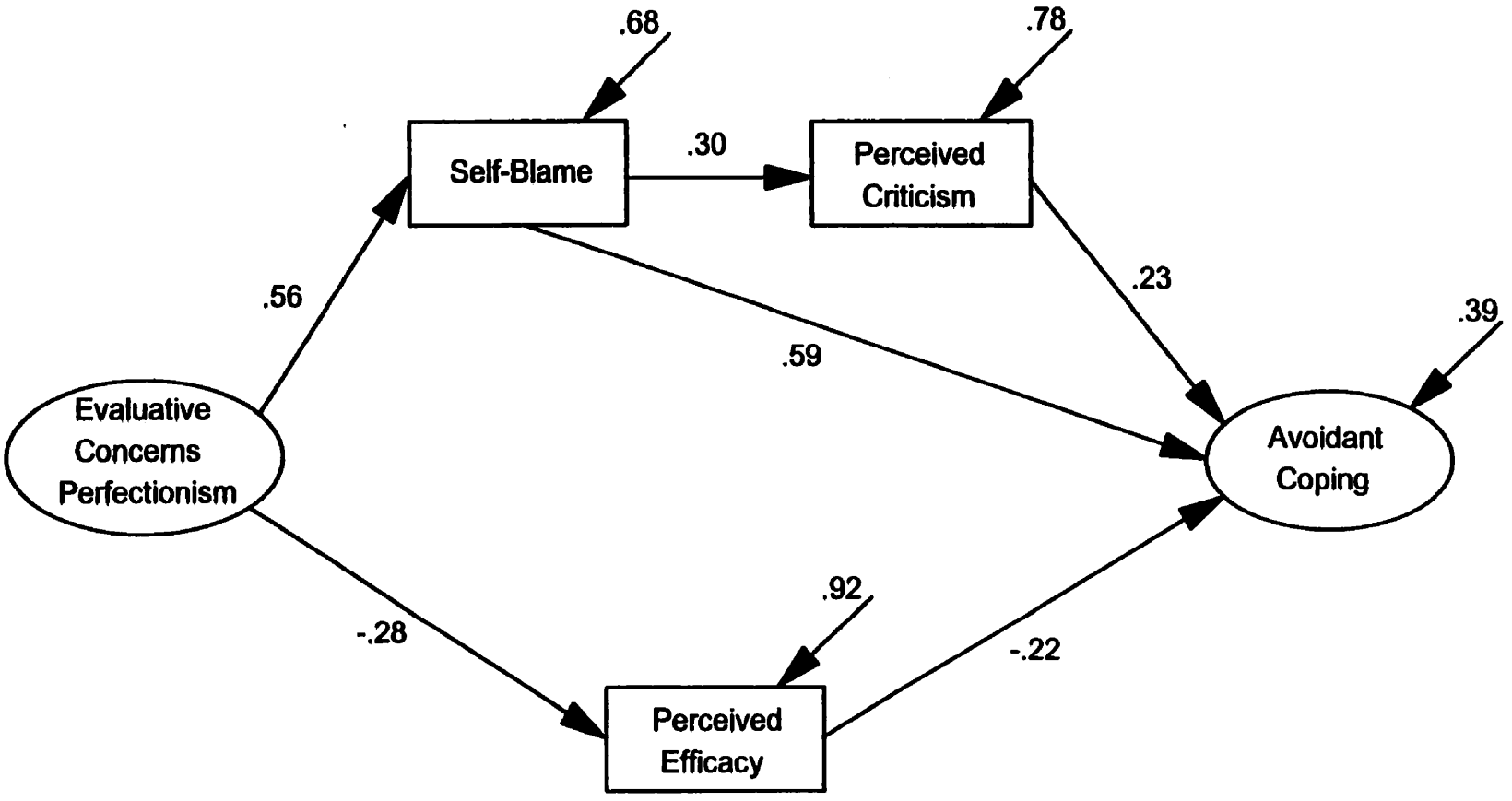
Figure 3. Standardized parameter estimates of the final structural model relating evaluative concerns perfectionism, avoidant coping, event stress, perceived social support, problem-focused coping, negative affect, and positive affect. The residual arrows denote the proportion of variance in the endogenous latent variable that was unaccounted for by other variables in the model.

Figure 4. Standardized parameter estimates of the final structural model relating evaluative concerns perfectionism, self-blame, perceived efficacy, perceived criticism, and avoidant coping. The residual arrows denote the proportion of variance in the endogenous latent variable that was unaccounted for by other variables in the model.


Event Stress
Evaluative Concerns Perfectionism
Avoidant Coping
Negative Affect
Personal Standards Perfectionism
Perceived Social Support
Problem-Focused Coping


Self-Blame
Perceived Criticism
Evaluative Concerns Perfectionism
Avoidant Coping
Perceived Efficacy


.61
Avoidant Coping
.35
.43
.82
.44
.62
Event Stress
.53
Negative Affect
Evaluative Concerns Perfectionism
-.18
.71
.72
-.54
Perceived Social Support
.23
Positive Affect
.43
Problem-Focused Coping


.68
.78
Self-Blame
.30
Perceived
Criticism
.56
.23
.39
.59
Evaluative
Concerns
Perfectionism
Avoidant
Coping
.92
-.28
-.22
Perceived
Efficacy

General Discussion

The present research examined stress appraisals, avoidant coping, and perceived social support as mediators and moderators in the relation between perfectionism and maladjustment. Four sections follow. First, the main findings of these studies will be reviewed and the theoretical implications discussed. Second, I will address the clinical implications of the results. Third, the methodological limitations of this research will be discussed. Finally, I will discuss future research that is needed.

Theoretical Implications

The Distinction between Evaluative Concerns Perfectionism and Personal Standards Perfectionism

Factor analytic studies (e.g., Frost et al., 1993; Slaney et al., 1995) of the Multidimensional Perfectionism Scales developed by Hewitt and Flett (MPS; 1991b) and Frost and colleagues (FMPS; Frost et al., 1990) have supported the existence of two dimensions of perfectionism. To allow for a more parsimonious and unambiguous assignment of meaning to these factors, I conducted confirmatory factor analyses (CFA) of selected indicators from these two dimensions and found support for two factors, which I labeled personal standards (PS) perfectionism and evaluative concerns (EC) perfectionism. Personal standards perfectionism describes people who set high standards and goals for themselves. On the other hand, evaluative concerns perfectionism involves self-critical evaluation tendencies, concern about other people's evaluation or criticism, excessive concern with making mistakes, and doubting of one's actions. Further, Study Two identified Blatt's (1974; Blatt et al., 1976) construct of self-criticism, a depressive personality style from a separate yet related literature, with the EC

dimension of perfectionism and distinguished it from PS perfectionism, which was highly indicated by MPS self-oriented perfectionism (see Dunkley & Blankstein, 2000). It has been the evaluative concerns dimension of perfectionism which has received the most attention by theorists (e.g., Blatt, 1995; Pacht, 1984) and has been most strongly associated with psychopathology (e.g., Frost et al., 1993). In addition, evaluative concerns perfectionists can be distinguished from other individuals who tend to experience distress, such as individuals preoccupied with interpersonal relatedness and issues of trust, caring, dependability, intimacy, and sexuality (see Blatt, 1995).

Consistent with previous studies, EC perfectionism, in contrast to PS perfectionism, had moderate to strong associations with the adjustment outcomes. Specifically, in Study One, EC perfectionism was strongly correlated with a distress latent construct whose indicators included depressive symptoms and anhedonic depression from the Mood and Anxiety Symptom Questionnaire (MASQ; Watson & Clark, 1991). Study Two corroborated previous findings (Mongrain & Zuroff, 1995; Zuroff et al., 1995) in demonstrating an association between EC perfectionism and higher levels of negative affect and lower levels of positive affect averaged over seven days. These findings are consistent with the possibility that EC perfectionists are vulnerable to depression onset, maintenance, and poor therapy outcome because they experience intense, prolonged negative affect without the protective effects of positive affect to interrupt their spiral into clinical depression (see Folkman & Moskowitz, 2000).

EC perfectionism, in contrast to PS perfectionism, was moderately to strongly related to daily stress, avoidant coping, and perceived social support (negatively), which

suggests that maladaptive traits are more prominent with this dimension of perfectionism. These relations were obtained using both retrospective, dispositional measures (Study One) and aggregated, situation-specific measures (Study Two). EC perfectionists closely resemble the chronically dysphoric group of individuals described by Depue and Monroe (1986), whose disturbance is highly cognitive and impacted on by minor events, perceived coping efficacy, and adequacy of coping patterns and social support. Likewise, a link can be made between EC perfectionists and a group of individuals that B. B. Brown (1978) found to be "dangerously handicapped" (p. 438). These "reluctant non-seekers" had poorer coping skills, perceived their networks to be comparatively unsupportive and unreliable, and had strong reservations about discussing their problems with others.

Daily Stress, Avoidant Coping, and Perceived Social Support as Mediators in the Relation between Evaluative Concerns Perfectionism and Distress. I tested mediational models, derived from prior theory and research, that posited daily stress, coping, and perceived available social support as the key mechanisms in the relation between evaluative concerns perfectionism and distress, as indicated by measures of depression, anxiety, negative affect, and low positive affect. My use of SEM allowed me to test more complex models with several mediating variables while controlling for measurement error, as each variable in the model had multiple indicators (see Baron & Kenny, 1986).

In Study One, hassles, avoidant coping, and perceived social support were all supported as unique mediators which together fully explained the relation between evaluative concerns perfectionism and distress. That is, evaluative concerns perfectionism was associated with each of hassles, avoidant coping, and social support

which, in turn, were associated with distress, controlling for the influence on distress of the other variables in the model. Study Two used the structural model of Study One to predict negative affect and positive affect separately, which enabled me to partition the mediating trait correlates of EC perfectionism into those that were specific to daily negative affect and positive affect, respectively. Specifically, the relation between EC perfectionism and negative affect was fully mediated by avoidant coping, which was related to negative affect directly and indirectly through its positive association with event stress. In contrast, perceived social support was the primary mediator in the fully mediated relation between EC perfectionism and positive affect. In both studies, a direct relation between evaluative concerns perfectionism and distress did not significantly add to the explanatory power of the model predicting distress beyond daily stress, avoidant coping, and perceived social support. In other words, evaluative concerns perfectionism did not possess other, unaccounted for, maladaptive components (e.g., low self-esteem) which resulted in a unique relation between this perfectionism dimension and distress. Overall, these findings are compatible with the possibility that "both lack of social support and passive, avoidant coping are related to depression onset, maintenance, and therapy outcome" (Ingram, Miranda, & Segal, 1998, p. 43).

My SEM results with the evaluative concerns perfectionism dimension can be interpreted within the cognitive theory of psychological stress and coping developed by Lazarus and his colleagues (e.g., Lazarus & Folkman, 1984). The theory identifies two processes, cognitive appraisal and coping, as critical mediators in the relation between stressful person-environment relations and outcomes. There are two kinds of cognitive

appraisal that an individual makes, primary and secondary appraisal. In primary appraisal, the individual evaluates whether an event has relevance to well-being. My findings that perfectionists experienced daily stressors with higher frequency and duration is consistent with the theoretical contention that perfectionists generate or instigate stress for themselves by appraising even ordinary events as threatening, and that this stress uniquely contributes to the greater tendency of these individuals to experience distress (e.g., Hewitt & Flett, 1993). Moreover, this result suggests that these individuals perceive that they have much at stake with many stressors. However, in Study Two there was no unique connection between EC perfectionism and stress appraisals of the most bothersome event of the day, in apparent contradiction to Study One's finding a unique relation between EC perfectionism and cumulative daily hassles. In another report (Dunkley & Zuroff, 2000), appraisals of the single most bothersome event of the day and cumulative daily hassles are shown to be uniquely related to fluctuations in negative affect, which suggests that they are independent components of daily stress.

Both studies indicated that evaluative concerns perfectionists typically engage in dysfunctional, avoidant kinds of coping, such as disengagement and denial, which also may exacerbate their levels of distress. As well, in both studies, avoidant coping was related to daily stress, which suggests that EC perfectionists generate stress for themselves by disengaging or giving up in response to stressful situations. The association between evaluative concerns perfectionism and dysfunctional, avoidant kinds of coping is consistent with Flett, Hewitt and colleagues' (Flett et al., 1994; Flett, Hewitt, Blankstein, et al., 1996) suggestion that socially prescribed perfectionists react to stressful

situations with a helplessness or hopelessness orientation. Study Two suggested that, in stressful situations, EC perfectionists blame their perceived deficiencies, becoming preoccupied with their self-worth, which partly explains their use of avoidant coping (see Dweck & Sorich, 1999). In terms of secondary appraisal of personal resources (Lazarus & Folkman, 1984), Study Two indicated that EC perfectionists lack confidence in their ability to handle stressful situations adequately, which also partly explains their avoidant coping tendencies.

Perceived available social support was a third unique mediator in the relation between evaluative concerns perfectionism and distress. That is, in both studies, there was a negative relation between evaluative concerns perfectionism and the perception that others are available for assistance during stress. Thus, in secondary appraisal, EC perfectionists also evaluate their social resources negatively in terms of what can be done to overcome or prevent harm (see Lazarus & Folkman, 1984). This finding is in keeping with evidence which suggests that self-critical individuals have lower perceptions of social support and, more specifically, do not believe others view them highly, do not feel integrated within a social network, and cannot count on others for help (Mongrain, 1998).

Personal Standards Perfectionism in Relation to Stress, Coping, Perceived Social Support, and Maladjustment. As expected, in both studies, the PS perfectionism dimension had much weaker, although significant, associations with daily stress and adjustment outcomes (i.e., distress, negative affect) than did EC perfectionism. However, in the SEM analyses, personal standards perfectionism was not related to daily stress and adjustment outcomes after controlling for the influence of other variables in the model.

Further, PS perfectionism was not related to avoidant coping and perceived social support which were relevant to the experience of distress This finding supports the contention that having high personal standards and goals is not in and of itself maladaptive (Frost et al., 1990), and that researchers should look to situations or circumstances, rather than traits, to assess the potential maladaptiveness of PS perfectionism (e.g., Hewitt et al., 1996). In contrast to the relation between PS perfectionism and retrospective, dispositional problem-focused coping reported in Study One, no relation was found between PS perfectionism and aggregated, situation-specific problem-focused coping in Study Two. Thus, PS perfectionists might demonstrate positive distortions in their recollections of certain aspects of functioning and, hence, the use of situation-specific or daily measures might add incremental validity to retrospective, summary questionnaires for examining positive correlates of PS perfectionism. Considering that PS perfectionism indicators are often unrelated to depression, this suggestion is consistent with evidence which suggests that individuals not characterized by depression exhibit exaggerated perceptions of control or mastery (see Taylor & Brown, 1988).

Hassles and Social Support as Moderators of the Relation between Perfectionism and Distress. The present research also examined the possibility that interactions between perfectionism and hassles, coping, and/or social support may predict unique variance in distress scores. In Study One, tests of diathesis-stress models provided qualified support for the hypothesis that, for both personal standards and evaluative concerns perfectionists, the greatest increases in distress were found as the level of hassles went from low to high. These findings are consistent with other studies that have found significant interactions

between dimensions of perfectionism and stress (Chang & Rand, 2000; Flett, Hewitt, et al., 1995; Hewitt & Flett, 1993; Hewitt et al., 1996; Lynd-Stevenson & Hearne, 1999). As well, for both evaluative concerns and personal standards perfectionists, there was a significant increase in distress levels as perceived social support decreased from high to low levels. Furthermore, the stress-buffering finding suggests that the experience of high levels of stress leads to negative outcomes for personal standards perfectionists, particularly when these individuals are also low in perceived social support. Thus, perfectionism seems to be a personality construct which can illuminate the moderating role of perceived social support (cf. L. H. Cohen et al., 1997).

It should, however, be noted that, with the exception of the evaluative concerns perfectionism by hassles interaction effect, none of the interaction findings in Study One replicated. Another issue raised was that support for several of the 2-way moderation hypotheses, with the exception of the evaluative concerns perfectionism and social support interaction, was evident only when the interaction terms were analyzed separately from the influence of one another. Finally, there were no significant two-way interactions in Study Two and, although significant three-way interactions were detected, the nature of the effects were not predicted and were not interpretable. However, a problem in interaction analyses is the difficulty in detecting moderator effects, especially higher order interaction effects, due to the high levels of measurement error typically contained in product terms (see McClelland & Judd, 1993). Further, it might be argued that the discrepancy in interaction results between Study One and Two was due in part to the greater statistical power of the tests in Study One, which were performed on a much

larger sample (see Jaccard et al., 1990). In short, although several significant interaction effects were detected in Study One, particularly when interaction terms were tested separately on the combined sample, these findings should be interpreted cautiously.

Clinical Implications

In analyses of the data from the NIMH TDRCP, Blatt and his colleagues (e.g., Blatt et al., 1995; Blatt et al., 1998) found that pretreatment perfectionism predicted negative outcome in all four kinds of brief (16-week) treatment (cognitive-behavioral therapy, interpersonal therapy, imipramine, and placebo). In contrast, data from other studies suggest that perfectionistic patients are responsive to long-term, intensive, psychodynamically oriented therapy (see Blatt, 1995). However, it is important to find treatment alternatives to long-term therapy because long-term treatment requires extensive investment by the patient, therapist, and society. The present research directly addresses what might constitute more effective short-term interventions for highly perfectionistic individuals, with both studies highlighting avoidant coping and negative perceptions of the availability of social support as important focal points for treatment. The underlying premise in this intervention approach is that these cognitive and behavioral aspects of perfectionism are more malleable than the personality trait itself (see Cantor, 1990; Procidano & Smith, 1997) and could be appropriate targets in an intervention to treat depressed clients who are perfectionists.

Evaluative Concerns Perfectionism and Avoidant Coping. Clinicians seeking to reduce EC perfectionists' avoidant coping in stressful situations might want to address the tendency of EC perfectionists to blame and denigrate their ability. This intervention

could involve challenging cognitive distortions regarding the self (e.g., Beck, Rush, Emery, & Shaw, 1979). This approach targets self-critical cognitions using behavioural (e.g., activity scheduling, setting "mastery" assignments) and cognitive (e.g., identifying, monitoring, collecting evidence for and against negative, automatic thoughts) techniques. That is, behavioural experiments help the self-critical client recover competencies and considerable time in therapy is spent discussing the dysfunctional, perfectionistic nature of the client's thought patterns in reaction to these experiments.

However, cognitive therapy for depression, as outlined by Beck and colleagues, focuses more on surface cognitions, such as dysfunctional assumptions and negative automatic thoughts, whereas deeper cognitive structures representing core beliefs receive less attention and are only targeted later in therapy. Thus, brief treatment for the EC perfectionist might be improved by augmenting the cognitive therapy protocol with techniques aimed at these deeper cognitive structures earlier in therapy. For example, schema-focused therapy expands on conventional cognitive therapy by placing more emphasis on the therapeutic relationship, affective experience, and the discussion of early life experiences (e.g., Young, 1999). Since parental criticism is core to the etiology of perfectionism (Frost et al., 1990; Koestner, Zuroff, & Powers, 1991), helping the EC perfectionist attribute their negative self-perceptions to external factors (e.g., prolonged exposure to parental criticism), rather than deep-seated personal inadequacies, might be useful. Clinicians might also want to address the tendency of EC perfectionists to have negative perceptions about their ability to handle stressful situations adequately (cf. Folkman et al., 1991). For example, EC perfectionists could be helped to disaggregate

global stressors (e.g., too much work) into specific stressful problems (e.g., not having adequate information with which to complete assignments) for which specific demands can be identified and coping strategies can be established.

Identifying the key mechanisms involved in the relation between EC perfectionism and avoidant coping is also relevant to the development of a possible therapeutic strategy directed at encouraging the EC perfectionistic patient's active involvement in the therapeutic process. Indeed, Gaston, Marmar, Thompson, and Gallagher (1988) found that depressed patients who rely more heavily on avoidance processes made a lower contribution to the alliance as reflected in patient commitment (i.e., perceiving hope and sustaining a view of the therapy as worthwhile in the face of momentary confusion, doubt, or mistrust) and working capacity (i.e., disclosing important material in therapy, not feeling criticized by the therapist, making use of the therapist comments). Furthermore, Zuroff et al. (2000) found that the negative relation between perfectionism and therapeutic outcome was mediated by the patient's inability to become an increasingly active collaborator in therapy, and unrelated to forming a positive emotional bond with the therapist. The present research suggests that therapeutic outcome for the EC perfectionist might benefit from the clinician's addressing self-blame cognitions and perceived efficacy in an attempt to get these individuals to become more active participants in therapy.

Evaluative Concerns Perfectionism and Perceived Social Support. Clues for possible ways to increase perceptions of social support in EC perfectionists might be found in studies indicating that socially prescribed perfectionism is associated with lower

levels of social self-esteem and self-perceived social skills (Flett, Hewitt, & De Rosa, 1996) and a higher frequency of negative social interactions (Flett et al., 1997). Similarly, self-critical women displayed more hostile behaviour towards their partners during a conflict resolution task (Mongrain et al., 1998; Zuroff & Duncan, 1999) and communicated more negative statements about their own and their partners' performance on the task (Vettese & Mongrain, 2000). In addition, self-criticism has been linked with negative biases in the perception of social interactions (Mongrain et al., 1998). Thus, an intervention directed at increasing perceived social support in EC perfectionists could involve improving social competence and helping them modify negative biases in interpreting supportive behaviors (see Brand et al., 1995). Targeting social competence could help the EC perfectionist with various behaviours, including positive expressions to others, conflict resolution, active listening, expressing negative affect appropriately, and responding to criticism. Cognitive therapy techniques (Beck et al., 1979) could be adapted to help EC perfectionistic clients interpret supportive behaviours appropriately. Moreover, given that perfectionists' negative representations of their parents are believed to influence subsequent interpersonal relationships (Blatt, Zuroff, Quinlan, & Pilkonis, 1996; Mongrain, 1998), another component of a social support intervention could be to help EC perfectionists reconceptualize relationships with their family of origin (see Blatt, 1995). Specifically, these individuals could be helped to develop more elaborate theories of the unsupportive behaviours of their parents in the past, such as their parents' own abuse as children, high levels of stress, a lack of skill in expressing emotions, and an emotional disorder (see Brand et al., 1995).

Methodological Limitations

Cross-Sectional Design. The findings were based on cross-sectional data and, thus, do not warrant strong statements of causality. That is, as the measures were completed concurrently, we could not ascertain the direction of causality among variables, and it is possible, for example, that distress influenced the reports of stress, coping, and perceived social support. A longitudinal study, in which distress is assessed prior to stress, coping, and social support, would be beneficial in determining the directionality of the relations observed in this research.

Self-Report Measures. The findings reported are all based on self-report questionnaires. Thus, participants were restricted to a predetermined set of experimenter-derived questionnaire items which might not have been accurate representations of what individuals were actually thinking and doing in particular situations (see D. A. Clark, 1997). The use of retrospective questionnaires also relied on the participants' ability to recall their own thoughts and behaviours. Although the daily data collection in Study Two reduced recall biases and distortions, participants' recollection of events still might have been distorted, particularly if hours had elapsed since the event occurred. It would be useful to replicate the present findings, particularly in assessing traits, with ecological momentary assessment (EMA) methods (Stone & Shiffman, 1994) which collect information more frequently. In addition, replication with other methods of data collection (e.g., peer ratings, observer ratings, clinical judgements) would be beneficial.

Further Research Needed

Experimental Studies. I assessed appraisals and coping retrospectively and only

once per day and, therefore, was unable to capture the dynamics of appraisal and coping processes as they are experienced during the day (e.g., Lazarus & Folkman, 1984). Primary appraisals, which play an important role in determining whether events are labeled as stressful, are likely very rapid and would require more frequent repeated measurements than is feasible with diary methodologies. Cognitive priming studies in which individuals are exposed to experimental stimuli and their subsequent cognitive reactions are examined would be useful to better inspect appraisals as stressful events unfold (see Ingram et al., 1998). As well, these thought patterns could also be assessed on-line using an articulated thoughts in simulated situations (ATSS) paradigm (see Davison, Vogel, & Coffman, 1997). ATSS participants report all cognitions (i.e., open-ended responding) rather than being limited to experimenter-selected options that may not be representative of their actual thinking in particular situations.

The Role of Major Life Events. The present research focused on the role of perfectionists' appraisals of and reactions to minor or daily stressors. Although minor stressors may contribute to the vulnerability of perfectionists to depression and help maintain their depression (Depue & Monroe, 1986), daily events might not be severe enough to initiate clinical depression onset (G. W. Brown, 1979). Moreover, G. W. Brown and Harris (1978) consistently found that the occurrence of a single severe life event was predictive of clinical depression onset, whereas the accumulation of minor stressors was not. Thus, it would be important to examine clinical depression onset in perfectionists and the role of cognitive appraisals and coping in response to major life events from different domains (e.g., interpersonal, achievement).

Extension to Other Populations. The generalizability of the results needs to be examined in student populations from other locations, in different age or sociocultural groups, and in clinical populations. It will be especially important to replicate and extend these findings in clinical populations. For example, Rector et al. (2000) found that, although highly self-critical patients tended to have a poorer treatment response to cognitive therapy, the degree to which self-criticism was significantly reduced was the best predictor of a successful response to cognitive therapy. Thus, two mediational questions about the relation between EC perfectionism and response to cognitive therapy could be asked: (1) do high levels of pretreatment daily stress, avoidant coping, and negative perceptions of social support explain why EC perfectionists are more likely to have a poor response to cognitive therapy?; and (2) do changes in high daily stress, avoidant coping, and perceived social support over the treatment period mediate the association between reduction in EC perfectionism and a positive treatment response to cognitive therapy?

Conclusion

My findings underscore the importance of assessing perfectionism as a multidimensional construct. The relation between EC perfectionism and distress (e.g., depression, anxiety, negative affect, low positive affect) can be explained by its association with a number of maladaptive tendencies, including daily event stress, self-blame, low perceived efficacy, perceived criticism, avoidant coping, and negative perceptions of social support. I believe the present findings are potentially appealing to practitioners who are eager to use empirically-based advice to inform their approach to

treating perfectionists. That is, it might not be necessary for clinicians to address high personal standards in treating perfectionists; rather, the clinician should direct his/her attention to the self-critical components of perfectionism (i.e., concerns about others' evaluation or criticism, concerns over making mistakes, doubts about the quality of one's actions) and their dysfunctional aspects, in particular high daily stress, avoidant coping, and negative perceptions about the availability of social support.

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