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Predicting hopelessness and psychological distress: the role of perfectionism and coping

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Abstract

This study investigated an integrative model involving the relationship between perfectionism (P.L. Hewitt & G.L. Flett, 1991) and coping (C.S. Carver, M.F. Scheier, & J.K. Weintraub, 1989) to predict changes in hopelessness and general psychological distress among college students. Results indicated that changes in psychological well-being (4 to 5 weeks later) were predicted by socially prescribed perfectionism and, as theorized, avoidance coping moderated the link between perfectionism and psychological well-being beyond initial levels of distress. Support was also found for the adaptive effects of cognitive reconstruction coping and other-oriented perfectionism whereas, under certain conditions, self-oriented perfectionism was shown to be maladaptive. These findings offer support for the proposed model. Implications for intervention and suggestions for future research are discussed.

KEY WORDS: perfectionism, hopelessness, psychological distress, coping, college students

It is well documented that perfectionistic tendencies are associated with psychological distress (see Shafran & Mansell, 2001 for a review). Pacht (1984) posits that striving for unattainable perfection produces psychological problems and, although the perfectionist can avoid disappointment by meeting their high standards, they rarely experience satisfaction with the results. However, there is considerable debate concerning which components of perfectionism increase the risk of psychopathology. Nevertheless, it is agreed that perfectionism is best understood as a multidimensional construct and this is reflected in the development of two widely used scales, both entitled the Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991, 1996).

Notwithstanding the fact that the authors of the two scales operationalize perfectionism using different items, Hewitt, Frost and colleagues agree that it is important to distinguish between the social and personal aspects (Frost et al., 1990; Hewitt, Flett, & Endler, 1995). Frost's personal dimensions include concern with mistakes, high standards, doubts about actions and organization whereas his social facets include parental standards and criticism (Frost & Marten, 1990; Frost et al., 1990). Hewitt and Flett (Hewitt & Flett, 1991, 1996), on the other hand, have identified three dimensions: socially prescribed perfectionism, self-oriented perfectionism and other-oriented perfectionism. Socially prescribed perfectionism taps beliefs about the excessive expectations we perceive significant others have of us and self-oriented perfectionism focuses on the standards we set for ourselves. Other-oriented perfectionism is the extent to which we possess high expectations and standards for other people's behavior.

To focus on Hewitt and Flett's dimensions, as their scale was employed in the present research, recent studies have yielded disparate findings. For example, some studies with clinical patients have found evidence for a positive association between self-oriented perfectionism and suicidal threat (Hewitt, Flett, & Weber, 1994) and depression (Hewitt & Flett, 1991; Hewitt et al., 1995), whereas others have not (Hewitt, Flett, & Turnbull, 1992). Furthermore, Hunter and O'Connor (in press) found, in a sample including general hospital parasuicide patients, that self-oriented perfectionism was positively correlated with positive future thinking (which buffers against suicide risk). In addition, a range of studies has shown self-oriented perfectionism to be positively associated with personal control, resourcefulness, self-esteem and adaptive learning strategies (Flett, Hewitt, Blankstein, & Dynin, 1994; Flett, Hewitt, Blankstein, & Mosher, 1991; Flett, Hewitt, Blankstein, & O'Brien, 1991; Mills & Blankstein, 2000).

The evidence is also equivocal in relation to other-oriented perfectionism. Work with clinical patient groups (Hewitt, Flett, Callander, & Cowan, 1998; Hunter & O'Connor, in press) and student populations (Chang & Sanna, 2001; Flett, Hewitt, Blankstein, & Mosher, 1995; O'Connor, O'Connor, Harper, Smallwood, & Miles, 2002) has revealed that other-oriented perfectionism serves as a suicide protection factor associated with lower depression and hopelessness. But other findings suggest that it is associated with increased paranoia and phobic symptoms (e.g., Hewitt & Flett, 1991). The positive relationship between other-oriented perfectionism and psychological well-being fits with self-focused attention models of depression which argue that focus directed away from self is often less destructive than increased focus on self (see Musson & Alloy, 1988). The relationship between psychological distress and socially prescribed

perfectionism, unlike the other two dimensions, seems to be more straightforward: higher social perfectionism (i.e., socially prescribed perfectionism) is associated with greater distress (Chang & Rand, 2000; Hewitt & Flett, 1991; Hewitt, Flett, & Ediger, 1996; Hunter & O'Connor, in press; O'Connor et al., 2002; Wyatt & Gilbert, 1998).

Although there have been a large number of studies conducted to clarify the relationships between the different dimensions of perfectionism and distress, (a) many studies are cross-sectional, (b) they often do not investigate changes in distress and, (c) “integrative models involving perfectionism and other theoretically important factors have not been seriously tested” (Chang & Sanna, 2001, p.494). The latter is somewhat surprising as such relationships are consistent with well established self-regulatory theories (e.g., Baumeister, 1990; Rehm, 1977). Hence, the focus of this study was on one such factor, coping style, and how it interacts with perfectionism to predict psychological adjustment longitudinally.

Perfectionism and moderating factors

First, a growing body of literature suggests that some of the vulnerability (or otherwise) associated with perfectionism may only be activated by the presence of moderating factors, like stress (Hewitt & Flett, 1993; O'Connor et al., 2002; Rice & Lapsley, 2001). Such hypotheses derive from the diathesis-stress literature which argues that psychological vulnerabilities, when activated by stress, result in depression, hopelessness and suicide ideation (e.g., Hewitt et al., 1995; Joiner & Rudd, 1995; O'Connor, O'Connor, White, & Bundred, 2000; O'Connor & Sheehy, 2000; Schotte & Clum, 1987; Sheehy & O'Connor, 2002). Coping styles, the behavioral and cognitive

responses that individuals employ when they encounter stressors, have also been shown to have well-established moderating effects. For example, there is a myriad of studies supporting the relationship between so-called maladaptive coping responses and psychological distress (Chang, 1998; Kopp, Skrabski, & Szedmak, 2000). Nevertheless, there is a dearth of research in the coping and perfectionism literature. To our knowledge, only a few studies have investigated how these variables interact to predict psychological distress (Dunkley & Blankstein, 2000; Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Hewitt et al., 1995; Rice & Lapsley, 2001).

The evidence suggests that certain dimensions of perfectionism are associated with maladaptive coping whereas others are related to adaptive components. For example, Hewitt et al. (1995) assessed 121 psychiatric in- and out-patients from a large psychiatric hospital on measures of perfectionism, coping and depression. Their results were interesting in that they suggested that self-oriented perfectionism and emotion-oriented coping (tendency to focus on negative affective reactions) were positively associated with depression and that emotion-oriented coping interacted with self-oriented perfectionism to predict depression. Rice and Lapsley (2001), employing a similar methodology, but assessing college students, found that perfectionism and coping predicted emotional adjustment but yielded no evidence for moderation. Dunkley et al. (2000), also utilizing university students and assessing the relationship between distress symptoms and Frost et al.'s (1990) measures did not find an interaction between coping and perfectionism. Dunkley and Blankstein (2000) were not interested in the moderating effects of coping; rather they investigated two possible mechanisms that could mediate the relation between self-critical perfectionism and distress. However, the conclusions

from these studies are limited as all of the measures were assessed concurrently within a cross-sectional study design.

Although the interaction between coping style and perfectionism is of interest empirically, the nature of this relationship also has considerable conceptual merit. Consider Baumeister's (1990) theory of suicide as escape from self in which he argues that the first step in the causal chain to suicide (i.e. psychological distress) begins with the interpretation of a severe experience as falling short of expectations and standards. Needless to say, such expectations and standards are determined, in part, by perfectionistic tendencies. However, not everyone who fails to meet these standards is at risk of suicide or psychological distress. This may be because there are individual differences with respect to the coping strategies that are employed to diffuse stressful situations. Hence, we would hypothesize that those individuals with high levels of, for example, social perfectionism but who employ an adaptive coping style will experience lower levels of hopelessness. As the literature is equivocal, we would not formulate specific directional predictions concerning self-oriented and other-oriented perfectionism.

The central aim of this study was to test an integrative model focusing on the relationship between coping and perfectionism to predict changes in two measures of well-being: psychological distress and hopelessness. These variables were chosen given their theoretical and clinical importance. Hopelessness has an established relationship with suicidal behavior (O'Connor & Leenaars, in press; O'Connor, Sheehy, & O'Connor, 1999, 2000), its relationship with moderating factors is under-researched and it is associated with social perfectionism among clinical patients (Hewitt et al., 1998; Hunter & O'Connor, in press). Psychological distress, as assessed via the General Health

Questionnaire (GHQ; Goldberg & Williams, 1988), is interesting clinically, as it is often used as a screening tool to detect psychiatric morbidity (Bowling, 1997) and, to date, its relationship with perfectionism is largely unknown. To our knowledge, only two studies (Hamilton & Schweitzer, 2000; Hanstock & O'Mahony, 2002), both cross-sectional, have investigated the relationship between dimensions of perfectionism and GHQ psychological distress. The former study (Hamilton & Schweitzer, 2000) was interested in the relationship between suicide ideation and perfectionism but did not report the associations between dimensions of perfectionism and GHQ psychological distress. Whereas the latter study, which included only female participants, found a negative correlation between psychological distress and self-oriented perfectionism (Hanstock & O'Mahony, 2002).

To summarize, in this study we recruited a sample of university students and assessed them at two points in time, intended to represent periods of relatively high and low stress. At Time 1, we measured perfectionism, coping style, psychological distress and hopelessness and at follow-up, 4 to 5 weeks later (Time 2), we recorded hopelessness, psychological distress and perceived stress. We aimed to address the limitations in previous research and extend our knowledge by investigating three key questions:

1. Do the dimensions of perfectionism relate differentially to adaptive and maladaptive coping styles and psychological distress and hopelessness?
2. Are the dimensions of perfectionism predictive of hopelessness and psychological distress prospectively after controlling for initial levels of distress?

3. Are the relationships between perfectionism, hopelessness and psychological distress moderated by coping styles?

Method

Participants

Two hundred and thirteen undergraduate students (44 men and 169 women) were recruited from two British universities. Prior to beginning the study, all students were informed that participation was voluntary, confidential and that even if they agreed, they could withdraw at any stage without explanation. Of this initial sample, 175 completed measures at both time points, at Time 1 (T1) and 4 to 5 weeks later, at Time 2 (T2). Those who did not complete the Time 2 measures did not differ significantly from those who did in terms of age ($t(211) = .176, NS$), marital status ($\chi^2(4) = 1.12, NS$) and gender ($\chi^2(1) = .141, NS$). As a result the subsequent analyses are based on the responses from the 175 participants. The mean age of the participants was 22.3 years ($SD = 6.6$) and the ages ranged from 18-67 years. The men and women did not differ significantly in age ($t(173) = 1.01, NS$) and the majority of the participants were not married (90%). We did not collect details of the racial/ethnic composition of our sample. However, the students at both universities are predominant White, representing 90 per cent and 95 per cent respectively of the student populations.

Measures

Hopelessness. Hopelessness was measured using the 20-item Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974). Respondents are asked to

indicate either agreement or disagreement with statements that assess pessimism for the future (e.g., “I look forward to the future with hope and enthusiasm”). Higher scores represent elevated hopelessness. This is a reliable and valid measure that has been shown to predict eventual suicide (Beck, Steer, Kovacs, & Garrison, 1985; Beck et al., 1974; Holden & Fekken, 1988). The scale range is 0 to 20. In the present study, internal consistency was very good (Kuder-Richardson–20 = .83).

Psychological Distress. The General Health Questionnaire (GHQ-30; Goldberg & Williams, 1988) was used to assess psychological distress. It consists of a checklist of 30 statements asking respondents to compare their recent experience to their usual state on a 4-point scale of severity from *better than usual* extending to *much less than usual*. Items include “been able to concentrate on whatever you’re doing” and “been nervous and strung-up all the time”. Higher scores indicate greater psychological distress and poorer general health. The scale has been shown to be reliable and valid (Goldberg & Huxley, 1980; Goldberg & Williams, 1988). The scale range is 0 to 90. Internal consistency in this sample was very good (Cronbach’s $\alpha = .93$).

Perfectionism. The Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991, 1996) is a 45-item measure of perfectionism, with 15 questions assessing each of three dimensions of perfectionism: (i) self-oriented perfectionism (MPS-Self), defined as a strong motivation to be perfect, all-or-nothing thinking and self-reported high achievement expectations (e.g., “One of my goals is to be perfect in everything I do”); (ii) socially prescribed perfectionism (MPS-Social) assesses the degree of belief that others hold unrealistically high expectations of one’s behavior and that they would only be satisfied with these standards (e.g., “The people around me expect me to succeed at

everything I do”); and (iii) other-oriented perfectionism (MPS-Other) is the degree to which an individual sets unrealistic standards for others (e.g., “If I ask someone to do something, I expect it to be done flawlessly”. Respondents are asked to rate each statement on a 7-point Likert-type scale ranging from 1 (*disagree*) to 7 (*agree*). Higher scores on each scale represent greater levels of perfectionism. Each sub-scale can range from 15 to 105. The MPS has been shown to exhibit acceptable test-retest reliability and construct validity (Hewitt & Flett, 1991). The three scales yielded good internal consistency in the present investigation (Cronbach’s $\alpha = .91, .85, .71$ for MPS-Self, MPS-Social and MPS-Other respectively). The MPS has been shown to have very good temporal stability three months later (Hewitt & Flett, 1991).

Coping Styles. We used a shortened version of The COPE Inventory (Carver, Scheier, & Weintraub, 1989) to assess coping styles. The original inventory is a 53-item measure which consists of 14 conceptually distinct subscales for active coping ($\alpha = .67$), planning ($\alpha = .77$), suppressing competing activities ($\alpha = .67$), restraint coping ($\alpha = .68$), seeking social support for instrumental reasons ($\alpha = .71$), seeking social support for emotional reasons ($\alpha = .76$), positive reinterpretation and growth ($\alpha = .72$), acceptance ($\alpha = .68$), turning to religion ($\alpha = .92$), focusing on the venting of emotion ($\alpha = .88$), denial ($\alpha = .76$), behavioral disengagement ($\alpha = .77$), mental disengagement ($\alpha = .51$) and alcohol-drug disengagement. Each of the scales, with the exception of alcohol-drug disengagement, is comprised of four items. Alcohol-drug disengagement is measured using one item. *The Modified COPE:* As the inventory is quite long, we used an abridged version of the scale. We employed Carver et al.’s (1989) original factor analysis to select the two items from each subscale with the highest loadings on the factors plus the one

item for alcohol-drug disengagement. This resulted in a 27-item abridged version. We then piloted the measure and obtained similar internal consistencies to previous studies (e.g. Carver et al., 1989). The internal consistencies (Cronbach's α) for each of the subscales in the present study, with the exception of mental disengagement, were acceptable (in parenthesis after each sub-scale). The scale range for each of the subscales, except for alcohol-drug disengagement is between 0 and 6. The maximum range for alcohol-drug disengagement is 3. Consistent with other studies (Carver et al., 1989; Ingledew et al., 1996), the internal consistency of the mental disengagement sub-scale was low at .51. However, similar to Ingledew et al. (1996) we kept it in the analysis. Test-retest reliability of the subscales has been shown to be relatively stable over 6 and 8 weeks (see Carver et al., 1989, Study 1).

Stress. The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) is a 14-item global measure of self-appraised stress (e.g., "In the last month, how often have you been upset because of something that happened to you unexpectedly?"). Respondents are asked to rate the extent of agreement with these items across a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*very often*). Higher scores reflect elevated levels of stress. Test-retest reliability and construct validity have been shown to be acceptable (Cohen & Williamson, 1988; Cohen et al., 1983). The scale range is from 0 to 56. Cronbach's α for the present sample was .81

Procedure

All participants were given a brief introduction of what the study would require and invited to participate. At Time 1 (T1), all 213 participants completed measures of

perfectionism, coping strategies, hopelessness and psychological distress. At Time 2 (T2), 4 to 5 weeks later, 175 of the participants completed measures of hopelessness, psychological distress and perceived stress. To enhance the likelihood that self-reported psychological well-being would change over the study period, we assessed the participants at a relatively high stress period (T1; when many of the students had degree-bearing coursework submission deadlines) and at a lower stress period (T2; when there were no coursework deadlines). Consistent with universities in other countries, in UK, the timing of coursework submission dates differs from class to class. To ensure that we sampled from a relatively high stress period at Time 1 relative to Time 2, in both universities, we ensured that participants were only recruited from classes in which they had degree-bearing coursework at that time and not at Time 2. All study measures were administered to participants from four intact classes (i.e., two classes from either university). All those who were approached agreed to participate. To control for transfer effects, the order of presentation of the measures was counterbalanced at both time points. To ensure anonymity but to allow for the follow-up, participants were asked to place either a pseudonym or their registration number on the study measures. Ethical approval had been obtained from the University Psychology Department's ethics committee.

Results

As anticipated, the mean ratings for psychological distress (GHQ-T1 versus GHQ-T2: $X = 36.69$, $SD = 13.03$ versus $X = 32.66$, $SD = 12.40$) and hopelessness (BHS-T1 versus BHS-T2: $X = 4.04$, $SD = 3.39$ versus $X = 3.70$, $SD = 3.01$) were lower at T2

relative to T1. This difference was significant for psychological distress but not for hopelessness ($t(174) = 4.38, p < .001$ and $t(174) = 1.30, p = .09$, respectively). Before proceeding with the main analyses, we conducted a factor analysis of the coping style responses, to yield clusters of items that were correlated, thereby deriving factors that were largely adaptive or maladaptive.

Factor Analysis of COPE

Following Ingledew, Hardy, Cooper, and Jemal (1996), we examined the factor structure of the COPE by analysis of the scale scores rather than the individual items (i.e. we factor analysed the item pairs and the alcohol-drug disengagement item). Extraction was by principal components factoring (as we wished to maximize the total variance explained among the variables). Retention of factors was determined using the eigenvalue-one procedure and Cattell's scree test. We used oblique rotation (oblimin) because coping research suggests that the scales are correlated (Carver et al., 1989; Ingledew et al., 1996; Lyne & Roger, 2000). Given that previous studies questioned the COPE turning to religion subscale (Ingledew et al., 1996) and the evidence that religious coping is not associated with psychological distress in an undergraduate sample (O'Connor, Cobb, & O'Connor, in press), we conducted two factor analyses: one analysis included the COPE turning to religion subscale, the other excluded it. Both factor analyses yielded the same findings: the extraction of four factors. In the first factor analysis, COPE turning to religion did not load on any of the factors. As a result, all subsequent analyses report the latter factor analysis which accounted for 60.1% of the scale's variance.

Consistent with Ingledew et al. (1996) and Fortune, Richards, Griffiths, and Main (2002), the first three factors were labelled (1) problem-focused coping ($\alpha = .70$), (2) avoidance coping ($\alpha = .70$) and, (3) lack of emotion-focused coping ($\alpha = .72$). We termed the fourth factor cognitive reconstruction ($\alpha = .65$; see Table 1 for subscale-factor loadings). The problem-focused factor was dominated by active coping, planning and suppression of competing activities plus restraint coping. Denial, behavioral and mental disengagement and turning to alcohol seem to be equally important components in the avoidance coping factor. The third factor comprised seeking instrumental and emotional social support and focus and venting of emotions. Consistent with Ingledew et al. (1996), this factor was labelled ‘lack’ of emotion-focused coping because all the loadings were negative. Finally, the fourth factor was labelled cognitive reconstruction coping as it consisted of two scales: positive reinterpretation and growth and acceptance.

Insert Tables 1 and 2 about here

Correlations among perfectionism, stress, coping and psychological well-being at Time 2

Zero-order correlations, means and standard deviations for the predictors and outcome variables are presented in Table 2 (below the diagonal). BHS-T2 was positively correlated with GHQ-T2, socially prescribed perfectionism, avoidance coping and stress. There was a weak negative correlation between BHS-T2 and cognitive reconstruction coping². A similar pattern of correlations between GHQ-T2 and the other variables was evident, however, the negative correlation with cognitive reconstruction was stronger than that with BHS-T2. The perfectionism subscales were all intercorrelated although the

relationship between socially prescribed and other-oriented perfection was weak. Self-oriented perfectionism was the only perfectionism dimension to be significantly related to any of the four coping factors or perceived stress: higher self-oriented perfectionism was associated with significantly lower avoidance coping. Problem-focused coping correlated significantly with lack of emotion-focused coping and cognitive reconstruction. None of the other coping factors were intercorrelated. Finally, as perceived stress increased (i) avoidance coping increased and, (ii) cognitive reconstruction decreased significantly.

The partial correlations between the variables, after controlling for BHS-T1 GHQ-T1, revealed interesting relationships between cognitive reconstruction coping and other variables (see Table 2 above diagonal). In particular, the relationships between cognitive reconstruction and the Time 2 outcome variables (BHS-T2 and GHQ-T2) were rendered no longer significant. It is also noteworthy that the correlation between perceived stress and cognitive reconstruction was also explained via psychological well-being at Time 1.

Perfectionism and coping as predictors of hopelessness (BHS-T2)

We conducted a series of hierarchical regression analyses to determine whether the dimensions of perfectionism and coping were predictive of hopelessness (T2) after controlling for initial levels of distress and, to investigate whether coping moderated the relationship between perfectionism and hopelessness³. To remove variance associated with initial levels of distress and perceived stress experienced between Time 1 and Time 2, GHQ-T1 and BHS-T1 were entered in the first step of each regression with stress entered at the second step. One of the three dimensions of perfectionism (MPS-Self;

MPS-Social or MPS-Other) was entered at step 3 followed by one of the four coping styles (problem-focused, lack of emotion-focused, avoidance coping or cognitive reconstruction) at step 4. Finally, the relevant multiplicative term (e.g. socially prescribed perfectionism x avoidance coping) was entered at the fifth step, to test for the interaction effects (see Pedhazur, 1997)⁴.

In all regressions, not surprisingly, BHS-T1 and GHQ-T1, entered as a block, were significant predictors of BHS-T2 with BHS-T1 being the stronger predictor. Perceived stress was also a significant predictor of BHS-T2 consistently. The regression analyses involving problem-focused coping and lack of emotion-focused coping and the dimensions of perfectionism yielded no significant main effects of coping or interactions. However, the analyses involving avoidance and cognitive reconstruction coping yielded interesting effects (see Table 3)⁵.

Insert Table 3 about here.

After the variance associated with BHS-T1 and GHQ-T1 and stress was removed, socially prescribed perfectionism and the cross-product interaction term (avoidance x socially prescribed perfectionism) were significant predictors of BHS-T2. To investigate the avoidance coping x socially prescribed perfectionism interaction, consistent with Aiken and West (1991), we plotted the regression lines of best fit at high (one standard deviation above the mean) and low (one standard deviation below the mean) levels of socially prescribed perfectionism and avoidance coping. Further tests were conducted separately on the slopes of the high and low avoidance coping to determine whether they

were significantly different from zero. Applications of the procedures outlined by Aiken and West (1991) revealed that the high ($\beta = .363$, $t(171) = 4.71$, $p < .001$) but not the low ($\beta = .051$, $t(171) = .631$, *NS*) avoidance coping lines differed significantly from zero. In other words, those participants who reported high avoidance coping and high social perfectionism at Time 1 were significantly more hopeless at Time 2 than those who did not.

Although other-oriented perfectionism was not an independent predictor of BHS-T2, the avoidance coping x other-oriented perfectionism interaction was significant. To probe the interaction further, we calculated regression slopes at high and low levels of avoidance coping, to determine whether they differed significantly from zero. Adopting the significance levels as outlined earlier (i.e., $p < .01$), the slope of the high avoidance regression was not significant ($\beta = -.184$, $t(171) = -2.39$, $p = .018$), however, there was a trend, that high levels of avoidance coping interacts with low levels of other-oriented perfectionism to produce higher levels of BHS-T2. The slope for low avoidance coping did not differ significantly from zero ($\beta = .166$, $t(171) = 1.88$, *NS*). In addition, self-oriented perfectionism did not predict changes in BHS-T2.

A different pattern of results was found for the perfectionism and cognitive reconstruction regression analyses. As is evident in Table 3, socially prescribed perfectionism was an independent predictor of change in hopelessness but its relationship with hopelessness was not moderated by cognitive reconstruction. With respect to self-oriented perfectionism, it interacted with cognitive reconstruction to produce changes in hopelessness.

Once again, we followed up the interaction with two simple slope calculations, as recommended by Aiken and West (1991). These analyses suggested that high levels of self-oriented perfectionism predicted higher hopelessness only when cognitive reconstruction coping was low ($\beta = .205$, $t(171) = 2.60$, $p < .01$) not when it was high ($\beta = -.126$, $t(171) = -.1.39$, *NS*). However, other-oriented perfectionism did not predict changes in hopelessness.

Perfectionism and coping as predictors of psychological distress (GHQ-T2)

The results for psychological distress were somewhat similar to those obtained for hopelessness. Once again, problem-focused coping and lack of emotion-focused coping, nor their cross-product interactions with perfectionism, predicted change in psychological distress. In addition, cognitive reconstruction did not predict psychological distress beyond initial levels of distress. However, as is displayed in Table 4, the relationships between avoidance coping and perfectionism had considerable predictive power. Not surprisingly, in all of these regressions, the initial levels of psychological distress were the strongest predictors of subsequent distress. Consonant with the predictors of BHS-T2, socially prescribed and other-oriented perfectionism interacted with avoidant coping to predict changes GHQ-T2. The post hoc analyses revealed that only high levels of avoidant coping interacted with high levels of socially prescribed perfectionism to predict significantly higher psychological distress relative to low levels ($\beta = .220$, $t(171) = 3.20$, $p < .01$).

Insert Table 4 about here

The interaction between avoidance coping and other-oriented perfectionism was slightly different from that reported for BHS-T2. Although the intercept of the low avoidance slope, irrespective of level of other-oriented perfectionism, is below that of the high avoidance slope, the slope analysis suggests that low levels of avoidance at low levels of other-oriented perfectionism predicts significantly lower levels of GHQ-T2 ($\beta = .232$, $t(171)=3.05$, $p<.01$). Whereas the slope for high avoidance coping did not differ significantly from zero ($\beta = -.125$, $t(171)=-1.91$, *NS*).

Discussion

This study yielded evidence in support of the three aims and extended our understanding of the relationship between perfectionism, coping and psychological health. Moreover, this research represents a rigorous test of the utility of integrative cognitive vulnerability models to predict changes in psychological well-being. In relation to the first aim, there was considerable evidence that psychological well-being related differentially to adaptive and maladaptive coping: avoidance and cognitive reconstruction coping correlated with hopelessness and psychological distress as assessed at Time 2, but in opposite directions. Avoidance coping can be characterised as maladaptive, as it involves denial, behavioral and mental disengagement and turning to alcohol in response to stress. Its positive relationship with hopelessness and psychological distress was not surprising given that this factor includes items like “I refuse to believe that it (stressor) has happened”, “I just give up trying to reach my goal” and “I drink alcohol or take drugs, in order to think about it (stressor) less”. Moreover, the strength of the relationship

between change in distress and avoidance coping should not be underestimated: the relationships held irrespective of initial levels of distress.

We labelled the fourth coping factor cognitive reconstruction because it incorporated positive reinterpretation and growth as well as acceptance. Closer inspection of the constituent items suggests that it taps responses that include changing one's perspective and choosing to see something good in the stressor and accepting it. One of the items for the positive reinterpretation and growth subscale is "I try to see it in a different light, to make it seem more positive" and one of the items for acceptance was "I accept that this has happened and that it can't be changed". Cognitive reconstruction represents an adaptive coping style: higher scores on this factor were associated with reduced hopelessness ($p < .05$) and better psychological well-being. However, the partial correlations suggest that the relationship between changes in psychological health and cognitive reconstruction are explained via the initial levels of psychological well-being – as its relationship with GHQ-T2 and BHS-T2 was no longer significant after the BHS-T1 and GHQ-T1 variance was removed.

That the other measures of coping (i.e. problem-focused and lack of emotion-focused coping) did not correlate with the outcome measures or the dimensions of perfectionism is worthy of note in the context of previous research. Hewitt et al. (1995) also reported few correlations, they found that for males, depression was only associated with emotion-oriented coping and, for females, depression was correlated with lower levels of task-oriented coping, avoidance and social diversion. With respect to perfectionism, these authors found that self-oriented perfectionism only correlated with emotion-oriented coping for women and that other-oriented perfectionism was only

associated with task-oriented coping. Unlike our findings, Hewitt et al. (1995) found that socially prescribed perfectionism correlated with emotion-oriented (for men) and social diversion coping (for women). Given the large difference in numbers of men and women who took part in this study, comparison by gender would not be meaningful in the present research. Unfortunately, comparison with Rice and Lapsley (2001)'s findings is not possible, as they did not report correlations between coping, perfectionism and distress.

Dunkley and Blankstein (2000) employed a larger sample ($N=175$ versus $N=233$) than the present study with approximately equal numbers of men and women. Their correlations suggested that self-oriented perfectionism was positively associated with task-oriented perfectionism and socially prescribed perfectionism was correlated with emotion-oriented, task-oriented and distraction coping. The discrepancy between their findings and ours could be, in some part, because participants in their study (and Hewitt et al., 1995) completed their measures at the same time. The differences may also be as a result of different measuring tools: Hewitt et al. (1995) and Dunkley and Blankstein (2000) both employed the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1990) whereas we used the COPE scale (Carver et al., 1989). Future research is required to determine the degree to which the COPE factors reported here map on to the CISS subscales. Nevertheless, taking the results as a whole, including the moderation findings reported here, they support the previous research which has found differential relationships between the dimensions of perfectionism, maladaptive and adaptive coping and psychological well-being.

Coping and perfectionism as predictors of psychological well-being

With respect to the second and third aims, this study yielded evidence to support the postulations that the dimensions of perfectionism are predictive of hopelessness and psychological distress after controlling for initial levels of distress and that these relationships are moderated via coping styles. Not only was socially prescribed perfectionism an independent predictor of hopelessness but its predictive power was enhanced by high levels of avoidance coping. Specifically, the maladaptive effect of a relatively stable personality dimension – social perfectionism – was exacerbated by the presence of a maladaptive coping style. This finding supports Baumeister's (1990) escape theory that implicates perfectionism in the etiology of psychological distress. This result also extends Hewitt et al.'s (1995) finding, they reported that socially prescribed perfectionism was a predictor of concurrent depression however they did not find an interaction with coping. Furthermore, social perfectionism interacted significantly with avoidance coping to predict changes in general psychological distress, although social perfectionism was not an independent predictor. This absence of an independent (main) effect is probably a function of the homogeneity of the constructs being measured: the BHS is thought to assess hopelessness only – pessimism for the future – whereas the GHQ assesses general psychological distress, which includes components of anxiety, depression, suicidality, insomnia and somatic symptoms.

The significant interaction between avoidance coping and other-oriented perfectionism to predict hopelessness adds to the growing body of evidence that, under certain circumstances, other-oriented perfectionism has adaptive effects (Chang & Sanna, 2001; Hewitt et al., 1998; Hunter & O'Connor, in press; O'Connor et al., 2002). Individuals who are low on other-oriented perfectionism, in other words, those who do

not have high expectations for other people's behavior and who respond to stressful events with avoidant cognitions and behaviors, like alcohol/drug use and disengagement, are likely to be more hopeless and, as a result, at enhanced risk of suicidal behavior. This finding demands the answer to another research question: do individuals with lower levels of other-oriented perfectionism also report social networks that are of reduced quality and quantity? If so, this represents one possible mechanism that could explain the adaptive effects of other-oriented perfectionism. Although the post hoc analyses for the other-oriented perfectionism x avoidance coping interaction, to predict GHQ psychological distress, only yielded an effect of other-oriented perfectionism at low levels of avoidance, the pattern of results was similar to that for hopelessness.

The final interaction of interest is the moderating relationship between cognitive reconstruction and self-oriented perfectionism to predict hopelessness. Consistent with previous research, self-oriented perfectionism did not have an independent relationship with hopelessness (e.g., Hunter & O'Connor, in press), rather higher self-oriented perfectionism was only associated with changes in hopelessness when cognitive reconstruction coping was low. Specifically, in the absence of positive reinterpretation and acceptance, setting unrealistic standards for oneself increases pessimism for the future.

It was also noteworthy that the relationship between stress and change in psychological well-being could not be explained in terms of initial levels of distress. Nonetheless, it is not possible to dismiss the notion that these effects were the result of the concurrent completion of the measures: i.e. contamination due to the measures of Time 2 psychological well-being and perceived stress being completed within the same

testing session. Even within a prospective study design, this limitation is difficult to overcome because we can only determine stress levels retrospectively. Perhaps future research should incorporate a measure of stress that does not rely exclusively on questionnaire self-report.

Although, we extended previous findings by assessing well-being at two time points within a prospective study design and we investigated the interaction between variables, it is important to mention three limitations. First, we relied entirely on self-report questionnaires, future research ought to include a selection of objective and subjective tools to determine perfectionism, coping and well-being. Second, the results may not be generalizable beyond a student sample, further research with general population participants is required. Third, our study followed participants over a relatively short period of time. It would be interesting to determine the utility of coping and perfectionism to predict longer term changes in affect and well-being.

Implications

Despite the limitations noted above, our findings have considerable implications for predicting those college students at risk of psychological maladjustment and suicidal behavior. We have demonstrated clearly that socially prescribed perfectionism and avoidance coping are maladaptive. Counselors and other mental health professionals should be particularly vigilant and sensitive to young people who appear overly concerned about what significant others expect of them and who employ avoidance-type coping in response to stressful events. Moreover, not only should efforts be redoubled to modify social perfectionism, they should also focus on enhancing the adaptive

components of other-oriented perfectionism. As noted earlier, theoretical models of depression argue that it is often important to shift cognitive focus away from oneself onto others (Musson & Alloy, 1988). This is reinforced here, with the caveat that the focus on others seems particularly protective when the young person is also employing avoidance coping.

Another approach to intervention concerns heightened awareness of when self-oriented perfectionism is a risk factor for psychological maladjustment. It seems that self-standard setting may be pernicious only when it is not kept in check. Our data suggest that when one is not employing adaptive coping strategies, like positive reinterpretation and acceptance, higher levels of personal standard setting are associated with increased hopelessness. In addition, this research provides descriptions of types of coping which, unlike many other studies, were factor analysed into clusters of adaptive and maladaptive coping, and therefore are particularly meaningful to student populations. As a result, counselors can focus their attention on coping styles which are pertinent to psychological adjustment. This fits with the notion that the identification of potential typologies of college students at suicidal risk can only aid treatment and subsequent outcome (Jobes, Jacoby, Cimboric, & Husted, 1997).

To conclude, this study extended previous research in a number of key respects. First, we demonstrated that components of perfectionism and specific types of coping predict hopelessness and psychological distress prospectively and beyond that explained by initial levels of distress. Second, avoidance coping and self-oriented perfectionism seem to be pernicious whereas cognitive reconstruction and other-oriented perfectionism, under certain conditions, are associated with psychological well-being. Lastly, we yielded

evidence that the relationship between perfectionism and distress was moderated by coping style. Future research is required to determine whether these relationships are predictive of well-being over longer periods of time.

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Table 1
COPE subscale factor loadings

	Factor 1	Factor 2	Factor 3	Factor 4
Active coping	.850	-.066	.074	.031
Planning	.798	-.072	-.048	-.044
Suppression of competing activities	.791	-.017	-.021	-.092
Restraint coping	.359	.330	-.070	.259
Denial	-.070	.797	-.175	-.121
Behavioral Disengagement	-.060	.749	.085	-.044
Mental Disengagement	-.122	.610	.029	.188
Turning to alcohol	.066	.685	.030	-.078
Seeking Instrumental Social Support	.055	-.024	-.770	.155
Seeking Emotional Social Support	-.045	-.112	-.885	.113
Focus and venting of emotions	-.040	.116	-.754	-.222
Positive reinterpretation and growth	.118	-.133	-.132	.676
Acceptance	-.111	.016	.058	.765

Table 2

Zero-order and partial correlations, means and standard deviations of the outcome variables and predictors¹

	BHS-T2	GHQ-T2	Social	Self	Other	Problem-focused Coping	Avoidance Coping	Lack of emotion-focused	Cognitive reconstruction Coping	Stress
BHS-T2	-	.443***	.284***	.073	-.063	-.064	.227**	.076	.008	.226**
GHQ-T2	.570***	-	.171*	.095	-.015	-.101	.293***	.030	-.078	.495***
Social	.301***	.218**	-	.256**	.131	-.054	.082	.013	-.063	.078
Self	.000	.084	.247***	-	.377***	.094	-.215**	.001	-.140	.038
Other	-.053	-.024	.155*	.362***	-	.047	-.001	-.120	-.093	-.097
Problem-focused Coping	-.115	-.130	-.066	.105	.047	-	-.111	-.239**	.187*	-.074
Avoidance Coping	.403***	.419***	.123	-.231**	.001	-.145	-	-.110	.173*	.175*
Lack of emotion-focused Coping	.129	.010	.014	-.046	-.106	-.246**	-.052	-	-.121	.013
Cognitive reconstruction Coping	-.155*	-.262***	-.106	-.134	-.081	.203**	.030	-.104	-	-.097
Stress	.421***	.689***	.134	.018	-.086	-.106	.350***	-.004	-.278***	-
M	3.70	32.66	54.14	65.75	57.87	² .00	.00	0.00	.00	24.94
SD	3.01	12.40	10.55	16.00	9.36	1.00	1.00	1.00	1.00	8.39

*** p<.001, ** p< .01 level, *p<.05 (2-tailed).

BHS-T2=Hopelessness Time 2; GHQ-T2=Psychological Distress Time 2 ; Social=Socially prescribed perfectionism; Self=Self-oriented perfectionism; Other=Other-oriented perfectionism

¹ Zero-order correlations are presented below the diagonal and upper half represents partial correlations (controlling for Hopelessness Time 1 and Psychological Distress Time 1).² M and SD for factor scores are standardised

Table 3 *Hierarchical multiple regression analyses testing the moderating effects of avoidance and cognitive reconstruction coping styles on the relationship between perfectionism and hopelessness*

	Predictor variable	R	Adj R ²	Δ R ²	F (1, 173)
Dependent variable: Hopelessness (BHS-T2)					
Step 1:	GHQ-T1 BHS-T1	.574	.322		42.32***
Step 2:	Stress	.604	.353	.031	9.37**
Step 3:	Socially prescribed perfectionism	.643	.399	.046	14.11***
Step 4:	Avoidance coping	.657	.415	.016	5.53*
Step 5:	Avoidance coping x socially prescribed perfectionism	.678	.440	.025	8.51**
Step 1:	GHQ-T1 BHS-T1	.574	.322		42.32***
Step 2:	Stress	.604	.353	.031	9.37*
Step 3:	Self-oriented perfectionism	.607	.353	.000	.94
Step 4:	Avoidance coping	.630	.379	.026	7.98**
Step 5:	Avoidance coping x self-oriented perfectionism	.630	.376	-.003	.23
Step 1:	GHQ-T1 BHS-T1	.567	.313		39.33***
Step 2:	Stress	.597	.344	.031	8.86**
Step 3:	Other-oriented perfectionism	.598	.341	-.003	.256
Step 4:	Avoidance coping	.618	.363	.022	6.51*
Step 5:	Avoidance coping x other-oriented perfectionism	.646	.395	.032	9.73**
Step 1:	GHQ-T1 BHS-T1	.574	.322		42.32***
Step 2:	Stress	.604	.353	.031	9.37**
Step 3:	Socially prescribed perfectionism	.643	.399	.046	14.11***
Step 4:	Cognitive Reconstruction coping	.644	.397	-.002	.37
Step 5:	Cognitive Reconstruction coping x socially prescribed perfectionism	.644	.394	-.003	.07
Step 1:	GHQ-T1 BHS-T1	.574	.322		42.32***
Step 2:	Stress	.604	.353	.031	9.37***
Step 3:	Self-oriented perfectionism	.607	.353	.000	.94
Step 4:	Cognitive Reconstruction coping	.608	.350	-.003	.27
Step 5:	Cognitive Reconstruction coping x self-oriented perfectionism	.631	.377	.027	8.18**
Step 1:	GHQ-T1 BHS-T1	.567	.321		39.33***
Step 2:	Stress	.597	.356	.035	8.86**
Step 3:	Other-oriented perfectionism	.598	.357	.001	.256
Step 4:	Cognitive Reconstruction coping	.598	.358	.001	.139
Step 5:	Cognitive Reconstruction coping x other-oriented perfectionism	.611	.374	.016	4.21*

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

Table 4

Hierarchical multiple regression analyses testing the moderating effects of avoidance coping on the relationship between perfectionism and psychological distress (GHQ-T2)

Predictor variable		R	Adj R ²	Δ R ²	F (1, 173)
Dependent variable: psychological distress (GHQ-T2)					
Step 1:	GHQ T1 BHS T1	.595	.346		46.85***
Step 2:	Stress	.723	.514	.168	59.78***
Step 3:	Socially prescribed perfectionism	.731	.523	.009	4.46*
Step 4:	Avoidance coping	.746	.543	.02	8.25**
Step 5:	Avoidance coping x social prescribed perfectionism	.757	.558	.015	6.71**
Step 1:	GHQ T1 BHS T1	.595	.346		46.85***
Step 2:	Stress	.723	.514	.168	59.78***
Step 3:	Self-oriented perfectionism	.726	.517	.003	2.04
Step 4:	Avoidance coping	.748	.546	.029	11.80**
Step 5:	Avoidance coping x self- oriented perfectionism	.749	.545	-.001	.84
Step 1:	GHQ T1 BHS T1	.597	.348		45.60***
Step 2:	Stress	.717	.505	.157	53.09***
Step 3:	Other-oriented perfectionism	.717	.502	-.003	.243
Step 4:	Avoidance coping	.734	.524	.022	8.60**
Step 5:	Avoidance coping x other- oriented perfectionism	.758	.559	.035	13.78***

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

¹ Cronbach α relate to the internal consistencies associated with each of the modified scales in the present study.

² To reduce the likelihood of making a Type I error, level of significance was set at $p<.01$

³ Due to problems concerning statistical power, the perfectionism x coping dimensions were examined using separate regression analyses (see Chaplin, 1991).

⁴ To reduce the likelihood of making a Type I error, the level of significance was set at $p<.01$ for the regression analyses.

⁵ The plots illustrating the interactions are available from the first author.