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Personality and Individual Differences 32 (2002) 1049–1061

PERSONALITY AND INDIVIDUAL DIFFERENCES

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Perfectionism in children: associations with depression, anxiety, and anger

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Received 23 October 2000; received in revised form 8 May 2001

Abstract

The relationships among measures of dimensions of perfectionism, depression, anxiety, stress, and anger were investigated in 114 children (45 males and 69 females, aged 10–15 years). Based on previous research [e.g. Hewitt, P. L. & Flett, G. L. (1993). Dimensions of perfectionism, daily stress, and depression: a test of the specific vulnerability hypothesis. *Journal of Abnormal Psychology*, *102*, 58–65], self-oriented perfectionism and socially prescribed perfectionism were hypothesized to interact with either achievement stress or social stress to predict concurrent depression. Participants completed the Child-Adolescent Perfectionism Scale, Children's Depression Inventory, Children's Manifest Anxiety Scale-Revised, Children's Hassles Scale, and Pediatric Anger Expression Scale. Results revealed that self-oriented perfectionism was significantly associated with depression and anxiety, whereas socially prescribed perfectionism was significantly correlated with depression, anxiety, social stress, anger-suppression, and outwardly directed anger. Findings also indicated that: (1) self-oriented perfectionism interacted with social stress to predict anxiety; and that (2) self-oriented perfectionism interacted with achievement stress and with social stress to predict depression. Results suggest that dimensions of perfectionism may be relevant variables in, and differential predictors of, maladjustment and distress in children.

Keywords: Perfectionism; Depression; Anxiety; Anger; Stress; Children; Adolescents; Personality

Contemporary researchers have focused increasingly on predicting, identifying, and understanding psychological difficulties in children.[1] Numerous studies have demonstrated the pervasiveness and destructiveness of maladjustment in such populations. Although research has examined predictors of psychopathology in children, relatively few investigations have considered

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[1] We use the term children to denote both children and adolescents throughout the document.

0191-8869/02/$ - see front matter
PII: S0191-8869(01)00109-X

personality factors (Shiner, 1998) and their associations with maladjustment and distress in such groups (Boggiano & Barrett, 1992; for examples of variables studied, see Robinson, Garber, & Hilsman, 1995; Whisman & Pinto, 1997).

One personality variable that has become the focus of research in adults, and more recently in children, is perfectionism (see Flett, Hewitt, Boucher, Davidson, & Munro, 2000; Hewitt, Newton, Flett, & Callander, 1997). We (Hewitt & Flett, 1991a) described perfectionism as multidimensional (also see Frost, Marten, Lahart, & Rosenblate, 1990) and as encompassing both intra-individual and interpersonal trait components. The three major traits of perfectionism we conceptualized are: (1) self-oriented perfectionism, which involves requirements for the self to be perfect; (2) other-oriented perfectionism, which involves requirements for others to be perfect; and (3) socially prescribed perfectionism, which involves perceptions that others require the self to be perfect. We have also suggested that these trait dimensions are differentially associated with psychopathology, and research is generally supportive of this position (for a review, see Hewitt & Flett, 2001).

Although prior research has indicated that dimensions of perfectionism are related to various types of maladjustment (see Flett & Hewitt, 2001), most of this research has involved adult psychiatric patients and university students. We have recently developed the Child and Adolescent Perfectionism Scale (CAPS; Flett et al., 2000). Modeled after the adult version (MPS; Hewitt & Flett, 1991b), the CAPS measures self-oriented and socially prescribed perfectionism, but in terms relevant to children. Although empirical research on the impact of perfectionism on children has just begun, studies have suggested that dimensions of perfectionism are relevant variables in, and differential predictors of, maladjustment and distress in children. For instance, two relevant studies using the CAPS have focused on suicide ideation and behaviours in adolescents and, consistent with adult research, these studies suggest that socially prescribed perfectionism is a significant predictor of suicide behaviours. More specifically, in a sample of adolescent psychiatric inpatients, Hewitt et al. (1997) found that self-oriented and socially prescribed perfectionism were both associated with hopelessness, whereas only socially prescribed perfectionism was uniquely associated with suicide ideation. Similarly, in a sample of adolescent suicide attempters, Boergers, Spirito, and Donaldson (1998) found that socially prescribed perfectionism discriminated between attempters with a high intent to die and attempters with no intent to die.[2]

Although the above-mentioned studies indicate that perfectionism can contribute to childhood maladjustment, there are no existing studies that have looked at dimensions of perfectionism and distress more broadly in a community sample of children. One purpose of this study was to examine the relationship between dimensions of perfectionism, as assessed by the CAPS, and various forms of emotional distress such as depression, anxiety, anger, and stress in such a sample. These forms of maladjustment have been shown to be problematic in such populations and, as indicated above, have increasingly been the focus of research (e.g. Eisenberg, Fabes, Shepard, Guthrie, Murphey, & Reiser, 1999). Moreover, each of these constructs has been found to be

[2] Hankin, Roberts, and Gotlib (1997) found that self-oriented perfectionism was negatively associated with depression in a sample of upper-middle class adolescents; however, their results were based on the MPS, a scale specifically developed for adults, and not on the CAPS, a scale especially designed for children. Similarly, Gould, King, Greenwald, Fisher et al. (1998) found that perfectionism failed to significantly predict elevated suicide risk in child and adolescent suicide attempters; however, as Gould et al. caution, their findings were derived from a four-item, unidimensional measure of perfectionism with unreliable psychometric properties.

associated with various dimensions of perfectionism in adults, suggesting the possibility that perfectionistic behaviours may be important in producing these types of emotional difficulties. The links between both self-oriented and socially prescribed perfectionism and depression-related phenomena have been described above, but there has been little research on perfectionism and anxiety and anger in children. Boergers et al. (1998) examined perfectionism and anger in a study of suicide attempters and found that adolescents who wished to die were characterized jointly by socially prescribed perfectionism and anger; however, these authors did not report the association between perfectionism and anger in their study. Additionally, evidence of a link between dimensions of perfectionism and anxiety has been provided by research on adults (e.g. Flett, Hewitt, Blankstein, & Mosher, 1995), although other studies suggest that socially prescribed perfectionism is the only trait dimension associated with anxiety symptoms (Antony, Purdon, Huta, & Swinson, 1998; Hewitt & Flett, 1991b). Finally, in adults, anger and hostility have been associated with both self-oriented and socially prescribed perfectionism (Hewitt & Flett, 1991a; Hill, Zrull, & Turlington, 1997).

In addition to demonstrating associations between dimensions of perfectionism and anger in this study, we were interested in examining how perfectionism may be associated with depression symptoms. Hewitt and Flett (1993) indicated that dimensions of perfectionism can act as vulnerability factors in depression by enhancing the aversiveness of experienced stress. We suggested that in the presence of specific or congruent stress, dimensions of perfectionism are associated with increased severity of depression symptoms. In three studies assessing this association, it was found that self-oriented perfectionism consistently interacted only with self-related/achievement stress to predict increased depression in clinical and nonclinical samples both concurrently (Hewitt & Flett, 1993, Studies 1 and 2) and over time (Hewitt, Flett, & Ediger, 1996). Based on these findings, we have argued that self-oriented perfectionism may confer a vulnerability to depression and that the depression symptoms will only become elevated or severe in the presence of self-related stressors or failures. Socially prescribed perfectionism, on the other hand, has been shown to interact only with social stressors in predicting depression in a clinically depressed sample (Hewitt & Flett, 1993), but the findings are not consistently evident in other samples (Hewitt & Flett, 1993; Hewitt et al., 1996). However, the results do indicate clearly that socially prescribed perfectionism is best conceptualized as a concomitant of depression in adults and that it may interact with various stressors in predicting depression severity (Hewitt et al., 1996; Hewitt, Flett, Ediger, Norton, & Flynn, 1998; Joiner & Schmidt, 1995).

The above research suggests that dimensions of perfectionism play different roles in predicting depression; however, the extant research has used only adult samples. Children, as mentioned above, also show relationships between dimensions of perfectionism and distress, and it may be that the different dimensions of perfectionism influence youth depression in a similar manner. Furthermore, there is an extensive literature indicating a link between stress and depression in children (e.g. Nolen-Hoeksema, Girgus, & Seligman, 1992; Rudolph & Hammen, 1999). It is possible that several factors moderate this association, and perfectionism may play an important role (Robinson et al., 1995).

There is no research specifically dealing with dimensions of perfectionism, stress, and depression in children; however, Roberts and Lovett (1994) provided indirect evidence of how perfectionistic children respond to achievement stress when they examined physiological and affective responses to achievement failure in an experimental study that used a mixed sample of 20

academically gifted students, 20 academic achievers, and 20 non-gifted students along with measures of perfectionism. The authors did not report the association between perfectionism and distress in response to failure; however, their pattern of findings indicated that the participants were high in self-oriented perfectionism and that they tended to have more negative affective reactions and greater physiological stress reactions after experiencing failure on an anagram task. These findings point to the possibility that children who are high on self-oriented perfectionism and experience achievement setbacks will experience increased distress. Thus, another purpose of this project was to assess whether dimensions of perfectionism interact with specific stressors in predicting the severity of depression.

The issue of specificity is a central theme when examining correlates of distress in children, with research often showing that the findings involving depression generalize to anxiety and externalizing problems (Weiss & Catron, 1994). The specificity issue was examined here, not only in terms of the correlations between perfectionism and distress, but also in terms of the extent to which perfectionism combines with achievement and social stress to predict levels of depression, anxiety, and specific facets of anger. Moreover, we assessed whether age might influence levels of reported maladjustment.

Finally, the use of specific stress measures (i.e. self-related/achievement vs social stress) allows us to assess a component of the general model of perfectionism and maladjustment outlined by Hewitt and Flett (2001). This model suggests that perfectionism influences the experience and response to stressors both directly and indirectly. Individuals with excessive levels of the different dimensions can generate, anticipate, maintain, and enhance the aversiveness of stressful events or failures as a function of their perfectionistic behaviours. For example, perfectionistic behaviours can generate stress that stems, in part, from the tendency for perfectionists to stringently evaluate, focus on negative aspects of performance, and experience little satisfaction. We have shown in one study that self-oriented and socially prescribed perfectionism are associated with rates of achievement and social life stress events in adults, providing some support for this model (Hewitt & Flett, 1993). In the present study, we wished to assess the relationships among dimensions of perfectionism, and achievement and social stress.

1. Method

1.1. Participants

In total, 114 students (45 boys and 69 girls) from three schools in an urban center participated in this study. Students ranging in age from 10 to 15 [mean age of 12.30 (S.D. = 1.77) years] comprised the sample. The grade level of the participants ranged between Grades 5 and 10, and 47% of the participants were in Grades 5 and 6.

1.2. Materials

1.2.1. Child-Adolescent Perfectionism Scale (CAPS; Flett et al., 2000)

The CAPS is a 22-item, self-report measure that assesses self-oriented and socially prescribed perfectionism in children with a minimum Grade 3 reading level. Items are rated on a five-point

Likert scale and higher scores reflect greater perfectionism. The multidimensional nature of the CAPS was confirmed via factor analysis, as was its ability to assess perfectionism with an adequate level of reliability (Flett, Hewitt, & Davidson, 1990).

1.2.2. Children's Hassles Scale (CHS; Kanner, Feldman, Weinberger, & Ford, 1987)

The CHS consists of 25 situations that children may experience (e.g. "Kids at school teased you") and requires children to indicate whether each hassle occurred within the past month and the degree to which they felt badly. Kanner et al. (1987) found adequate internal consistency for this scale at 0.87. In order to assess self-related and social stress, we had three raters indicate which items on the measure reflected self-related or achievement stress and which reflected social stress (Hewitt & Flett, 1993). This procedure resulted in a 10-item measure of self-related achievement stress (e.g. schoolwork was too hard, did not do well at sports) and a 12-item measure of social stress (e.g. kids at school teased you, mother or father got sick). Items were summed to provide a measure of the frequency of each type of stress.

1.2.3. Children's Manifest Anxiety Scale-Revised (CMAS; Reynolds & Richmond, 1978)

This scale is a 28-item self-report measure of anxiety requiring a minimum Grade 3-reading level. Children reply "Yes" or "No" to statements such as "I have trouble making up my mind" and "I wake up scared most of the time". The greater the sum of affirmative responses, the higher the level of manifest anxiety. Anxiety items yielded reliability estimates of 0.83 and 0.85 in two separately tested groups, and the validity of the CMAS was indirectly established for children above second grade (Reynolds & Richmond, 1978).

1.2.4. Children's Depression Inventory (CDI; Kovacs, 1983)

The CDI contains 27 items describing different symptoms of childhood depression and requires children to choose statements that best describe themselves during the previous two weeks. The statements are graded according to severity from 0 to 2. Approximately half the items are reverse-

Table 1
Means and standard deviations of the CAPS and measures of distress for boys, girls, and the total sample

Measure	Total ($n=114$)		Boys ($n=45$)		Girls ($n=69$)	
	M	S.D.	*M*	S.D.	*M*	S.D.
Self[a]	37.19	8.37	37.75	7.85	36.82	8.73
Social[b]	25.46	9.26	27.34	9.60	24.25	8.90
Depression	35.19	7.01	34.98	8.06	35.32	6.29
General Anxiety	11.32	6.67	9.95	7.08	12.21	6.28
Anger-out	8.62	2.38	8.25	2.34	8.86	2.39
Anger-control	6.66	1.83	6.75	1.81	6.59	1.85
Anger-reflect	9.87	2.45	9.59	2.47	10.06	2.44
Anger-suppress	3.96	1.30	3.80	1.25	4.06	1.34
Achieve Stress	5.92	2.09	5.60	2.08	6.13	2.08
Social Stress	5.06	2.87	4.96	3.18	5.13	2.66

[a] Self-oriented perfectionism.
[b] Socially prescribed perfectionism.

scored and higher totals reflect more severe depression. The CDI is considered suitable for children 8–17 years of age. Several studies have demonstrated good internal consistency for the CDI, ranging between 0.83 and 0.94 (Saylor, Finch, Spirito, & Bennett, 1984). Additionally, the concurrent validity of the CDI with other self-report measures of negative self-concept has been supported (Saylor et al., 1984). The present study used 26 of the 27 CDI items, eliminating the suicidal ideation question due to concerns among school personnel.

1.2.5. Pediatric Anger Expression Scale (PAES; Jacobs, Phelps, & Rohrs, 1989)

The PAES is a measure of four styles of anger expression in children: anger-out (outward expression of anger), anger-control (maintaining control of anger), anger-reflection (thinking about anger to resolve feelings), and anger-suppression (directing anger inward). Children rate, on a 3-point scale, the frequency with which they respond in a specified manner when they are angry. Scores are summed, with higher scores indicating greater anger expression. Jacobs et al. (1989) found reliability coefficients for the PAES of 0.63 (anger-reflection), 0.67 (anger-suppression), 0.68 (anger-control), and 0.74 (anger-out).

1.3. Procedure

Letters outlining the nature of the study and requesting child participation were distributed to every child in Grades 5–9 in an elementary and junior high school and to every child in several Grade 10 classrooms. Children were required to return permission slips from their parents and personally complete consent forms before participating. Children taking part in the study completed the questionnaires in groups of 30–35 in a designated classroom during class time.

2. Results

The means and standard deviations for measures of perfectionism, depression, anxiety, anger, and stress are presented in Table 1 and zero-order correlations between the perfectionism and distress measures are below the diagonal in Table 2. Self-oriented perfectionism was positively correlated with depression and anxiety, but was not associated with the anger or stress measures. This suggests that depression and anxiety may be outcomes of perfectionism that involve requiring the self to be perfect, but that anger and increased stress in achievement or social domains appear not to be affected. On the other hand, socially prescribed perfectionism was positively correlated with depression, general anxiety, anger-out, and social stress, and was negatively correlated with anger-suppression. These findings suggest that socially prescribed perfectionism is more broadly associated with psychological difficulties than self-oriented perfectionism, a finding also reported with adults (Hewitt & Flett, 1991a). In addition, these results highlight the fact that anger and social stress may also be problematic for children high in socially prescribed perfectionism, especially in experiencing and expressing the anger.

In terms of gender differences, there were no differences in mean levels of the variables for boys versus girls. There were also no differences between boys and girls in the magnitude of correlations, although there was a trend for the relationship between socially prescribed perfectionism and anger suppression to be greater for boys ($r = -0.40$) than girls ($r = 0.05$, $Z = 1.89$). Similarly,

partial correlations controlling for age are presented above the diagonal in Table 2. There were no significant differences between the partial and the zero-order correlations, suggesting that age levels of the participants did not influence the magnitude of correlations.

In order to address the specificity of associations between perfectionism dimensions and distress, we calculated the partial correlation coefficient between a particular distress outcome, such as depression, and either self-oriented or socially prescribed perfectionism, while controlling for anxiety and anger. None of these partial correlation coefficients was significant, suggesting that neither self-oriented nor socially prescribed perfectionism predicted unique variance in any distress measure after controlling for the other distress measures.

The specific vulnerability hypothesis was addressed with a set of hierarchical regression analyses with either achievement or social stress measures. CDI scores were predicted in each analysis and the following variables were entered sequentially: age, perfectionism dimension, stress dimension, and the perfectionism by stress dimension product vector. With respect to self-oriented perfectionism (top of Table 3), both self-oriented perfectionism and achievement stress predicted depression, and, most importantly, the interaction of self-oriented perfectionism and achievement stress was a significant predictor. Although this interaction was significant at $P < 0.07$, Pedhazur (1982, p. 440) suggests that the alpha level should be relaxed in these moderated regression analyses in order to protect for Type II error. The significant interaction indicates that the relationship between perfectionism and depression changes depending on the level of achievement stress. In order to clarify the nature of the interaction, we calculated the slopes of the regression of Time 2 depression on self-oriented perfectionism at 3 levels of achievement stress: 1 S.D. above the mean (high), the mean (medium), and 1 S.D. below the mean (low; Cohen & Cohen, 1983, p. 323). The slope for the high value was significant ($\beta = 0.36$, $t = 3.23$, $P < 0.01$) as was the slope for

Table 2
Zero-order correlations, partial order correlations controlling for age, and coefficients alpha of perfectionism, maladjustment symptoms, achievement and social stress for the total sample ($n = 114$)[a]

	Self	Soc	Dep	Anx	Out	Contl	Reflect	Supp	S-Ach	S-Soc
Self	*0.85*	0.48***	0.20*	0.30**	0.15	−0.12	0.06	0.02	−0.01	0.07
Soc	0.48***	*0.86*	0.24*	0.24*	0.17	−0.10	−0.04	−0.19*	0.10	0.25*
Dep	0.23*	0.26**	*0.85*	0.67***	0.44***	−0.40***	−0.34***	−0.14	0.46***	0.40***
Anx	0.32***	0.31**	0.67***	*0.89*	0.50**	−0.28**	−0.16	−0.10	0.56***	0.54***
Out	0.14	0.21*	0.47***	0.52***	*0.70*	−0.55***	−0.25**	−0.41***	0.23*	0.24*
Cont	−0.09	−0.11	−0.37***	−0.28**	−0.53***	*0.77*	0.42***	0.43***	−0.04	−0.14
Reflect	0.06	−0.08	−0.34***	−0.18	−0.29**	0.42***	*0.67*	−0.27**	−0.13	−0.16
Supp	0.04	−0.20*	−0.11	−0.12	−0.39***	0.45***	0.28**	*0.64*	0.06	−0.11
S-Ach	0.01	0.14	0.49***	0.58***	0.24*	−0.04	−0.12	0.05	*0.55*	0.66
S-Soc	0.09	0.24**	0.42***	0.52***	0.23*	−0.13	−0.14	−0.08	0.66***	*0.72*

[a] Zero-order coefficients are below the diagonal and partial coefficients controlling for age are above the diagonal. Alpha coefficients are in italics and appear on the diagonal. Self = Self-oriented perfectionism; Soc = Socially prescribed perfectionism; Dep = Depression; Anx = Anxiety; Out = Anger Out; Cont = Anger Control; Reflect = Anger Reflect; Supp = Anger Suppression; S-Ach = Achievement Stress; S-Soc = Social Stress.

* $P < 0.05$.

** $P < 0.01$.

*** $P < 0.001$.

the mean value ($\beta = 0.22$, $t = 2.62$, $P < 0.05$). Finally, the slope for the low value was not significant ($\beta = 0.07$, $t = 0.57$, ns). Thus, only children or adolescents with average or high levels of achievement stress experienced increased depression as self-oriented perfectionism levels increased. As can also be seen in Table 3, self-oriented perfectionism interacted with social stress to predict depression. Again, in order to clarify the nature of the interaction, we calculated the slopes of the regression of Time 2 depression on self-oriented perfectionism at the same three levels of social stress noted above. The slope for the high value was significant ($\beta = 0.35$, $t = 3.27$, $P < 0.01$) and the slope for the mean value approached significance ($\beta = 0.17$, $t = 1.95$, $P < 0.06$). Finally, the slope for the low value was not significant ($\beta = -0.02$, $t = -0.13$, ns). Thus, only children with high levels of social stress experienced increased depression as self-oriented perfectionism levels increased.

In Table 3 it can also be seen that, although socially prescribed perfectionism and both achievement and social stress predicted depression, neither the interaction between socially prescribed perfectionism and achievement stress, nor between socially prescribed perfectionism and social stress, predicted depression scores. The findings indicate that the relationship between socially prescribed perfectionism and depression was not influenced by stress.

Table 3
Self-oriented and socially prescribed perfectionism and achievement and social stress in predicting severity of depression[a]

Variable	R^2 total	R^2 change	Standard β	T
Self-oriented and achievement stress	0.31			
Step 1: Age		0.07	0.13	1.40
Self-oriented			0.23	2.43**
Step 2: Achievement stress		0.21	0.46	5.60***
Step 3: Interaction		0.02	0.82	1.84*
Self-oriented and social stress	0.27			
Step 1: Age		0.07	0.13	1.40
Self-oriented			0.23	2.43**
Step 2: Social stress		0.16	0.40	4.64***
Step 3: Interaction		0.04	1.01	2.46**
Socially prescibed and achievement stress	0.29			
Step 1: Age		0.09	0.16	1.73
Socially prescribed			0.26	2.85**
Step 2: Achievement stress		0.20	0.45	5.47***
Step 3: Interaction		0.00	0.19	0.47
Socially prescribed and social stress	0.24			
Step 1: Age		0.09	0.16	1.73
Socially prescribed			0.26	2.85***
Step 2: Social stress		0.13	0.38	4.29***
Step 3: Interaction		0.02	0.54	1.50

[a] The alpha level is relaxed in these regression analyses to protect the Type II error rate (Pedhazur, 1982, p. 440).
* $P < 0.07$.
** $P < 0.05$.
*** $P < 0.01$.

In order to determine the specificity of findings, we repeated the regression analyses using anxiety as the dependent variable. The only significant interaction was between self-oriented perfectionism and social stress. Those experiencing average and high levels of stress experienced increased anxiety as self-oriented perfectionism increased (β's = 0.25, $P < 0.01$ and 0.39, $P < 0.001$, respectively). We also tested the interactions of perfectionism and stress in predicting the anger variables that were significantly correlated with perfectionism (i.e. anger out and suppression). None of these interactions was significant.

3. Discussion

This study examined whether self-oriented and socially prescribed perfectionism were associated with domains of maladjustment including depression, anxiety, anger, and achievement and social stress in children. Self-oriented and socially prescribed perfectionism were associated with a number of forms of maladjustment. Moreover, there was evidence that self-oriented perfectionism interacted with both self-related/achievement stress and social stress to predict depression and with social stress to predict anxiety. These findings suggest that the presence of high levels of perfectionism is associated with adjustment problems, supporting the maladaptive nature of perfectionism in children (Pacht, 1984).

3.1. Perfectionism and depression

The correlational findings showing that self-oriented and socially prescribed perfectionism are associated with depression are generally consistent with the adult literature (e.g. Hewitt & Flett, 1991a). We suggested that self-oriented perfectionism may be related to depression due to the perfectionist's punitive self-evaluation, self-blame, and overgeneralization of perceived failures, which may influence stressful experiences (Hewitt & Flett, 2001). Moreover, the association between socially prescribed perfectionism and depression is thought to be due to the individual's strong need for approval, fear of negative evaluation, and perceived inability to meet others' expectations (Hewitt & Flett, 1991b). This reasoning is consistent with Cole's (1991) model of depression, suggesting that children develop self-perceptions based on feedback from others regarding their competence in different areas (also see Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). Thus, a child's perception of falling short of the perfectionistic expectations of others affects the child's self-perceptions, resulting in depression.

An important extension of the association between self-oriented perfectionism and depression is the interaction of self-oriented perfectionism and both types of stress. Although not entirely consistent with a specific congruency hypothesis, both achievement and social stress may be particularly problematic for children with high levels of self-oriented perfectionism. This is consistent with other diathesis-stress models of depression (e.g. Robinson et al., 1995) and suggests that self-oriented perfectionism may be a predisposition for depression, in a similar manner as has been shown with adults (Hewitt et al., 1996).

The results dealing with the interaction of self-oriented perfectionism and stress in predicting depression clarify findings whereby self-oriented perfectionism is sometimes correlated with depression, and sometimes not. As Coyne and Whiffen (1995) state, the ideal measure of a personality

vulnerability factor should show low or nonsignificant correlations with the current level of depression. This is due to the diathesis itself not being sufficient to produce depression, but requires the interaction of stressors. The results suggest that self-oriented perfectionism functions as a vulnerability factor that requires stress to lead to depression and that this may be evident in both adult and childhood depression.

In terms of specificity of findings with depression, although there were no significant interactions predicting anger, there was a significant interaction between self-oriented perfectionism and social stress in predicting anxiety scores, which was also the case with depression. Thus, social stress and self-oriented perfectionism may be relevant for both anxiety and depression. On the other hand, the fact that self-oriented perfectionism interacted with achievement stress to predict only depression suggests that these two factors may be important solely for depression symptoms.

Similarly, there was no evidence that either perfectionism dimension predicted unique variance in any measure of distress after controlling for the other measures. This might suggest that self-oriented and socially prescribed perfectionism do not predict "pure" symptoms of depression, anxiety, or anger, but that they are associated with general negative affect (compare with Hewitt & Flett, 1991b).

This study found both self-oriented and socially prescribed perfectionism to be significantly correlated with anxiety. This differs from research with adults in which anxiety has been more strongly related to socially prescribed perfectionism (Arthur & Hayward, 1997; Flett, Hewitt, Blankstein, & Koledin, 1991). It may be that self-oriented and socially prescribed perfectionism are both relevant to the experience of anxiety in children. Several research reports have indicated that social stressors and social status are important in both anxiety and depression (e.g. Strauss, Frame, & Forehand, 1987). Although socially prescribed perfectionism involves the need to be connected socially and the need to meet others' expectations, it is conceivable that perceiving others' expectations as unrealistic would have an impact on anxiety. Moreover, self-oriented perfectionism and social stress combine to produce anxiety symptoms, suggesting somewhat different mechanisms at play with anxiety in children.

It has been hypothesized that anger is more closely related to socially prescribed perfectionism than to self-oriented perfectionism because anger is a typical response to perceived unfair treatment by others (Averill, 1983). This relationship was evident in this study as socially prescribed perfectionism was positively correlated with anger-out and negatively correlated with anger-suppression. Children who perceive perfectionistic expectations from others appear to respond with externally directed anger and hostility. This is consistent with the interpersonal difficulties of socially prescribed perfectionists. For example, Hill et al. (1997) found in men, that aggressive, manipulative, and nonempathic behaviours characterized socially prescribed perfectionists. Similarly, in this research, there was a trend for boys to show a stronger relationship between socially prescribed perfectionism and decreased anger suppression than girls. The findings of this study offer the first empirical evidence of a relationship between perfectionism and anger in children and suggest that socially prescribed perfectionism is most relevant.

We suggested that perfectionism heightens vulnerability by increasing the frequency, importance, and aversiveness of stressors, and prolonging stress responses (Hewitt & Flett, 2001). In this study, only socially prescribed perfectionism was correlated with stress, and it was only correlated with social stress. This partially supports our contention that dimensions of perfectionism may generate stressors within a particular domain and suggests that one mechanism of the

perfectionism-maladjustment link may be due to the generation of stress. On the other hand, the correlational nature of this study precludes knowing the direction of causality.

3.2. Limitations and directions for future research

Although the findings of this study shed light on the role of perfectionism in maladjustment in children, there are several issues that need to be addressed in future work. First, self-report measures of stress have been criticized as inaccurate indicators of experienced stress. Certainly the current study could have been strengthened with additional measures that capitalize on some of the interview methodologies that have been developed to assess stress and maladjustment (e.g. Brown & Harris, 1978). Second, the current findings should be replicated in specific clinical samples. Third, the findings in this study are based on a correlational design. Use of longitudinal designs may further elucidate the importance of perfectionism in emotional distress.

In conclusion, the purpose of this study was to examine relationships between perfectionism and maladjustment in children. The results suggested that self-oriented and socially prescribed perfectionism are associated with emotional distress in children. This marks an important extension of prior perfectionism studies with adults and hopefully will give rise to research that reveals the importance of personality variables such as perfectionism in the psychological difficulties experienced by children.

Acknowledgements

This research was supported by a grant from the Social Science and Humanities Research Council of Canada (410-97-1278).

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