

The Relations between Perfectionism and Suicidality: A Systematic Review

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Since the 1980s, there has been a 300 percent increase in the number of published papers on perfectionism. Given the inconsistent findings in the literature, this systematic review examines, for the first time, the nature of the relationship between perfectionism and suicidality. To this end, the three main psychological and medical databases (PsychInfo 1887–May 2006, Medline 1966–May 2006 and Web of Knowledge 1981–May 2006) were searched. Twenty nine papers of perfectionism and suicidality were found. There is considerable evidence that self-critical evaluative concerns perfectionism (i.e., socially prescribed perfectionism, self-criticism, concern about mistakes, and doubts about action) is correlated with suicidality. The methodological implications for future research are examined. In addition, the clinical implications for treatment and how these findings relate to the current conceptual debate on the nature of perfectionism are discussed.

Suicidal behavior and ideation are important risk factors for completed suicide, indeed the best predictor of completed suicide is a history of suicidal behavior (e.g., O'Connor & Sheehy, 2000). Despite the observation that too often attempts to understand suicidality are atheoretical (Leenaars et al., 1997), there is a growing corpus of research in which diathesis-stress models have been operationalized in the pursuit of understanding the suicidal mind (e.g., Joiner & Rudd, 1995). Exponents of psychological diathesis-stress models argue that psychological vulnerability factors, when activated by stress, result in

psychological distress; in this case, in suicidal ideation or suicidal behavior (e.g., Chang, 2002; O'Connor & O'Connor, 2003). Indeed, many psychological vulnerability factors have been identified, including coping style, problem-solving capacity, and dispositional pessimism.

PERFECTIONISM AND PSYCHOLOGICAL DISTRESS

Since the early 1990s, a plethora of studies have implicated another cognitive vulnerability factor, trait perfectionism, in the etiology of psychological distress (e.g., Flett & Hewitt, 2002)¹ and suicidality specifically (e.g., Blatt, 1995). In recent years, perfectionism research has been the subject of considerable theoretical and conceptual in-

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1. Indeed Flett and Hewitt noted that there was an increase of 330 percent in publications which had perfectionism as a search term in the 1990s compared to the 1980s (p.5).

terest because there is an ongoing debate concerning whether perfectionism is exclusively maladaptive and whether it is best conceptualized as a multidimensional rather than a unidimensional construct (see Dunkley, Blankstein, Masheb, & Grilo, 2006; Hewitt, Flett, Besser, Sherry, & McGee, 2003; Shafran, Cooper, & Fairburn, 2002, 2003, for a discussion).

Most present day theorists argue that perfectionism is best conceptualized as a multidimensional construct (Hewitt & Flett, 1991; Frost, Marten, Lahart, & Rosenblate, 1990) with personal and social dimensions. To this end, two research groups independently developed two scales, both entitled the Multidimensional Perfectionism Scale, to assess the different components of perfectionism (Frost et al., 1990; Hewitt & Flett, 1991). The Frost scale (MPS-F) has six dimensions: (1) Concern over mistakes (CM) is defined as reacting negatively to mistakes and equating them with failure; (2) Doubts about actions (DA) is concerned with doubts about the quality of one's performance; (3) Personal standards (PS-F) probes the setting of excessively high standards for oneself and overvaluing the meeting of these standards; (4) Parental expectations (PE) taps the perception that parents have high expectations; (5) Parental criticism (PC) is the extent to which one perceives their parents as being excessively critical; and (6) Organization (O) taps the extent to which order and organization are important.

By comparison, Hewitt and Flett's scale (MPS-H) consists of three dimensions: (1) Self-oriented perfectionism (SOP) is defined as a strong motivation to be perfect, all-or-nothing thinking, and self-reported high achievement expectations; (2) Socially prescribed perfectionism (SPP), or social perfectionism, 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; and (3) Other-oriented perfectionism (OOP) is the degree to which an individual sets unrealistic standards for others.

Other multidimensional scales exist

but have been employed somewhat less frequently in the perfectionism literature. They include: the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) which includes the self-criticism subscale; the Burns Perfectionism Scale (Burns, 1980); the Almost Perfect Scale (Slaney, Rice, & Ashby, 2002); and the Perfectionism Questionnaire (PQ; Rheaume, Freeston, & Ladouceur, 1995). Flett and colleagues have also developed the Child and Adolescent Perfectionism Scale (CAPS; Flett, Hewitt, Boucher, Davidson, & Munro, 1997) which consists of two subscales: self-oriented and socially prescribed perfectionism.

For this review, I included all studies pertaining to suicidality (i.e., those reporting suicidal ideation or behavior) which measured perfectionism, self-criticism, or related constructs and critiqued each study accordingly. What is more, the conclusions from a series of studies by Bieling, Blankstein, Cox, Dunkley and others are compelling (e.g., Bieling, Israeli, & Antony, 2004; Blankstein & Dunkley, 2002; Cox, Enns, & Clara, 2004; Dunkley et al., 2006; Dunkley, Zuroff & Blankstein, 2003). These authors have consistently found from factor analytic research that two higher order factors emerge: Personal standards (PS) and self-critical evaluative concerns (EC) perfectionism. PS perfectionism involves the setting of high standards and goals for oneself and EC perfectionism involves "overly critical evaluations of one's own behavior, an inability to derive satisfaction from successful performance, and chronic concerns about others' criticism and expectations" (Dunkley et al., 2006, p. 65). Self-oriented perfectionism and Frost's personal standards reflect the latent construct PS perfectionism whereas concern over mistakes, doubts about actions, and social perfectionism cluster on the EC perfectionism dimension. Furthermore, Blatt's self-criticism (DEQ) loads on the EC dimension (Dunkley et al., 2003). Therefore, I aim to interpret the studies in this review within this two factor framework.

Beyond the theoretical and conceptual developments, the present evaluation is timely

and important because of the clinical implications of a perfectionism–suicidality relationship. To date, only one peer reviewed study has successfully developed an intervention to modify perfectionism as a problem trait itself (Riley, Lee, Cooper, Fairburn, & Shafran, 2007). This dearth in the literature may be due to the lack of clarity about the nature of the relationship between perfectionism and distress. Consequently, I seek to clarify the perfectionism–suicidality relationship, thereby affording an empirical framework on which to build effective treatments.

To summarize, I conducted a systematic review of the international literature concerning the relationship between perfectionism and suicidality to determine the nature of this relationship.

METHOD

Selection of Studies

A literature review of the three main psychological and medical databases was conducted: PsychInfo (1887–May 2006), Medline (1966–May 2006), and Web of Knowledge (1981–May 2006). The following keyword searches were employed: (1) suicid* and (perfection* or self-critic*) and (2) self-harm* and (perfection* or self-critic*). To ensure I did not miss any other relevant studies, I also conducted two additional searches, using negative and critical self-evaluation as search terms, as above. Next, a graduate psychologist and I read all the abstracts to select relevant papers based on the following criteria.

1. Only original, published journal articles were included in the analyses.
2. A measure of perfectionism was used in the assessment of perfectionism.
3. Suicidal ideation and/or suicidal behavior was recorded for the participants.
4. The study recorded the relationship between perfectionism and suicidality.

The reference lists of all the papers identified were hand-searched. We included studies of clinical and nonclinical participants as well as participants of all ages. The research strategy was deliberately inclusive thereby minimizing the likelihood of omitting any published studies. The review yielded 29 published empirical papers which are presented in the proceeding sections as follows, similar to Speckens and Hawton (2005): (1) cross-sectional studies investigating the relationship between perfectionism and suicidality; (2) case-control studies comparing groups of individuals with suicidal behavior/ideation with control groups of clinical patients or nonclinical controls; and (3) longitudinal (prospective) studies of perfectionism and suicidality. Given the variety of study designs, a meta-analysis was not feasible.

RESULTS

Cross-Sectional Studies

General Population Studies. Eight of the studies were cross-sectional general population studies, of these, seven focused on university students and one recruited male juvenile delinquents (see Table 1). In each of the studies ($n = 3$) which employed the MPS-H scale (Dean & Range, 1996; Dean, Range, & Goggin, 1996; Klibert, Langhinrichsen-Rohling, & Saito, 2005), social perfectionism (SPP) was positively correlated with suicidality irrespective of method of assessment. In addition, Dean et al. (1996) but not Dean and Range (1996) found that SPP explained variance in suicidality beyond hopelessness and depression.

Three studies employed Frost and colleagues' perfectionism scale. In the first of these studies, Adkins and Parker (1996) found that CM (primarily) and DA were associated with suicidal ideation and that passive perfectionists (i.e., those high on CM and DA) were more likely to report suicide proneness. In the second study, Chang, Watkins, and Banks (2004) aggregated the PS and O subscales to form an adaptive subscale and

combined the CM, PE, PC, and DA subscales to yield a maladaptive subscale. They found that suicidal ideation only correlated with maladaptive perfectionism in the White sample but it correlated with adaptive (negatively) and maladaptive perfectionism in the Black sample. Path analyses revealed that stress mediated the relationship between maladaptive perfectionism and suicidal ideation in both samples, although the mediation was only partial in the White sample. Finally, Chang (2002) found general perfectionism accounted for 13% of the suicidal ideation variance, with its interaction with social problem solving explaining an additional 9% of the variance.

In the remaining two studies, Cole (1989) found no support for the association between the fear of disapproval scale (Linehan, Goodstein, Nielsen, & Chiles, 1983) and suicidality among juvenile delinquents whereas, among university students with a history of past suicidality, self-criticism (DEQ) predicted risk, risk-rescue scores, attempt lethality and suicidal intent (Fazaa & Page, 2003).

Clinical Population Studies. Nine of the cross-sectional studies included clinical participants, four of which measured perfectionism via one of Hewitt and Flett's scales, three used Blatt's DEQ scale, and three focused on adolescents. In the first of these latter studies, Hewitt, Newton, Flett, and Callander (1997) reported that SPP was correlated with suicidal ideation in boys and girls and it was a unique predictor of suicidal ideation when considered alongside hopelessness. Donaldson, Spirito, and Farnett (2000) also assessed perfectionism via the CAPS and they found some evidence for the detrimental effects of SPP. When perfectionism was entered into a hierarchical regression to predict hopelessness, however, self-criticism was the only variable to be a significant predictor (see Table 1).

In Fehon and colleagues' study of 194 adolescent inpatients (Fehon, Grilo, & Martino, 2000), self-criticism was significantly associated with suicidality after controlling for depression. In addition, in Beutel et al.'s (2004) study of adult inpatients, self-criticism

was correlated with suicidality: a single item measure of suicidal ideation. Farmer and Creed (1986) also found a positive relationship between self-criticism and the seriousness of the suicidal act independently of depression among 70 inpatient self-harmers. Furthermore, in a small sample of Chinese suicide notes, approximately one quarter contained reference to self-criticism (He, Yang, & Lester, 2001).

Of the two other studies to employ Hewitt and Flett's scale (Dean & Range, 1999; Hewitt, Flett, & Turnbull-Donovan, 1992), both yielded correlational evidence in support of the social perfectionism-as-maladaptive hypothesis. Of particular importance, when entered into multivariate regressions, SPP predicted additional variance in suicide threat and suicide intent beyond the effects of hopelessness and depression (Hewitt et al., 1992). However, Dean and Range's (1999) path analysis suggested that SPP was not a direct predictor of suicide ideation. This may well be the case, although any conclusions ought to be cautious given the recognized instability of structural equation modeling with small sample sizes (Hu & Bentler, 1995). In the final study, Ranieri et al. (1987) found that high self-expectations (similar to SOP) and sensitivity to social criticism (similar to SPP) were uniquely related to suicidal ideation.

Case-Control Studies

General Population Studies. Two of the three studies identified were from student populations and each study employed a different measure of perfectionism (see Table 2). In the first study, Hewitt, Flett, and Weber (1994) found that SPP and SOP predicted suicide ideation group membership independently of depression and hopelessness. The second study (Hamilton & Schweitzer, 2000), representing the sole Australian sample, revealed that the suicide ideation group had significantly higher levels of overall perfectionism (MPS-F), CM, and DA than the no suicide ideation group. Subsequent multivariate testing confirmed that the suicide ide-

TABLE 1
Cross-Sectional Studies of Perfectionism and Suicidality

Study Country	Population			Suicide Risk	Perfectionism	Results
	Source	Gender and Age (years)				
General Population (N = 8) Cole (1989) USA	53 juvenile delinquents (Study 2)	All male Mean age 15.7 (SD = 1.4)		PBQ (Linehan, 1981)	FOD (Linehan et al., 1983)	FOD was not correlated with suicidality and therefore was not included in subsequent analyses.
Adkins & Parker (1996) USA	129 university students	45 male, 84 female Mean age 21.8 years (SD = 5.7)		Suicidal preoccupation (Nagy et al., 1990) & Thematic Apperception Test	MPS-F	Passive perfectionism (concern over mistakes and doubts about actions) assoc more preoccupied with suicide
Dean & Range (1996)	USA 168 university students	52 male, 116 female Mean age 21.9 (SD = 9.34)		SBQ (Linehan & Nielsen, 1981)	MPS-H	SPP correlated with suicidal behaviors. No dimensions explained additional variance in suicidal behaviors.
Dean et al. (1996) USA	114 university students	18 male, 96 females Mean age 24.4yrs (SD = 7.2)		SSI (Beck et al., 1988)	MPS-H MPS-Social only	SPP correlated with suicide ideation. MPS accounted for 3% additional variance in suicide ideation beyond HS and depression.
Chang (2002) USA	371 university students	72 male, 299 female Mean age 23.5 (range 18–53)		ASIQ (Reynolds, 1991)	MPS-F (total score only)	MPS-F accounted for 13% of variance in ASIQ, plus further 9% on interaction with problem solving.
Fazaa & Page (2003) Canada	64 university students who reported past suicide attempts	20 male, 44 female Mean age 20.4 (SD = 3.3)		Suicidal intent—item Suicide Lethality (Weisman & Worden, 1972)	Self-criticism (Blatt et al., 1976)	Self-criticism predicted risk, risk-rescue, lethality, and suicidal intent.
Chang et al. (2004) USA	150 Black & 150 White university students	All female. Mean age 19.66 (SD = .099)		ASIQ (Reynolds, 1991)	MPS-F	Mixed correlational evidence in Black & White samples. Stress mediated maladaptive perfectionism-suicidal ideation in both.
Klibert et al. (2005) USA	475 college students	139 male, 336 female (M = 20.9)		Suicide Proneness (LAS-SF; Rohde et al., 1996)	MPS-H	SPP correlated with suicide proneness. Those high on SPP (& SPP + SOP) had higher levels of suicidality.

<i>Clinical Population (N = 9)</i> Farmer & Creed (1986) UK	70 DSH inpatients	28 males and 42 females. Mean age 24.7 (<i>SD</i> = 5.9)	Hospital admission following DSH and a Suicide Intent Scale (Pierce, 1977)	Self-criticism (HDHQ; Caine et al., 1967)	High self-criticism & guilt associated with seriousness of suicidal act independent of depression.
Ranieri et al. (1987) USA	50 inpatients and 25 outpatients	43 females and 32 males. Mean ages: 44.32 & 41.72	SSI (Beck et al., 1979).	DAS	Six DAS items uniquely related to suicidal ideation.
Hewitt et al. (1992) Canada	87 psychiatric in- and outpatients	41 male, 46 female Mean age 35.69 years	MMPI-Threat Suicide Scale (TSS; Farberow & Devries, 1967)	MPS-H	SPP correlated with suicide threat/intent. SPP also predicted suicide variance beyond HS & depression.
Hewitt et al. (1997) Canada	66 adolescent psychiatric inpatients	33 male, 33 female Mean age 15.39 (<i>SD</i> = 1.6).	SIQ (Reynolds, 1988)	CAPS	SPP was correlated with SIQ. SPP was an unique predictor of SIQ when considered alongside hopelessness.
Dean & Range (1999) USA	132 clinical outpatients	94 male, 37 female Mean age 35.5 (<i>SD</i> = 11.9)	SSI (Beck et al., 1988)	MPS-H MPS-Self and SPP only	SPP correlated with suicidal ideation. SPP was not a direct predictor of suicide ideation.
Donaldson et al. (2000) USA	68 adolescents following suicide attempt	17 male, 51 female Mean age 15 (<i>SD</i> = 1.43)	Participants required medical treatment following suicide attempt.	CAPS DEQ-A (Blatt et al., 1992)	SPP and SC correlated with HS. Only SC accounted for HS variance beyond depression and past behavior
Fehon et al. (2000) USA	194 adolescent psychiatric inpatients	83 males, 111 females Mean age 15.8 (<i>SD</i> = 1.6)	SRS (Plutchik et al., 1989)	DEQ-A (Blatt et al., 1992)	SC and dependency correlated with suicide risk. SC-Suicide risk relation held after controlling for depression
He et al. (2001) China	17 young adult suicides	8 males, 9 females. Age range 16-28, median = 22yrs	Suicide confirmed via suicide note	Some type of content analysis	4/17 notes contained self-criticism
Beutel et al. (2004) Sample 1 Study 2 Germany	404 psychosomatic inpatients	65% female Mean age: 38.5 (range 17-70 yrs)	Suicidal ideation (item 15 of the SCL 90-R (Franke, 1995))	DEQ (Blatt et al., 1976)	Correlation between suicidal ideation and SC and dependency

Note. MPS-F = Frost's Multidimensional Perfectionism Scale; MPS-H = Hewitt & Flett's Multidimensional Perfectionism Scale; CAPS = Child-Adolescent Perfectionism Scale; SPP = Socially prescribed perfectionism; SOP = Self-oriented perfectionism; DEQ = Depressive Experiences Questionnaire; DEQ-A = Depressive Experiences Questionnaire for Adolescents; SC = DEQ Self-criticism; LAS-SF = Life Attitude Schedule Short Form; HS = hopelessness; SRS = Suicide Risk Scale; ASP-R = Almost Perfect Scale-Revised; DIS = Discrepancy subscale of the revised Almost Perfect Scale; CM = Frost's Concerns over mistakes; DA = Frost's Doubts about Action; RLI = Reasons for Living Inventory; PBQ = Parasuicidal Behavior Questionnaire; SBQ = Suicidal Behaviors Questionnaire; SSI = Scale for Suicide Ideation; ASIQ = Adult Suicide Ideation Questionnaire; FOD = Fear of Disapproval Scale; DAS = Dysfunctional Attitude Scale; MMPI = Minnesota Multiphasic Personality Inventory; HDHQ = Hostility and Direction of Hostility Questionnaire; SCL 90-R = Symptom Checklist-90-Revised.

TABLE 2
Case-Control Studies of Perfectionism and Suicidality

Study Country	Population				Suicide Risk	Perfectionism	Results
	Cases	Controls					
<i>General Population (N = 3)</i>							
^a Hewitt et al. (1994) Study 2 Canada	University students. Moderate suicide ideators ($n = 49$). Mean age for total sample ($n = 160$) 21.72 yrs ($SD = 5.55$)	University students. Low suicide ideators ($n = 111$). Groups did not differ on age or gender.	SSI (Beck et al., 1988). Ratings of suicidal thoughts in past year and likelihood of attempting suicide in future.	MPS-H	Low and moderate suicide ideators differed significantly on SOP and SPP. Both SOP and SPP independently predicted suicidal ideation in a discriminant analysis.		
Gould et al. (1998) USA	67 (38 males) adolescents reporting suicidal ideation & 42 (14 males) who had ever attempted suicide.	1,176 (629 males) adolescents with no suicidal history. Age range for total sample 9–17.	Suicidal ideation and attempts assessed via DISC-2.3 (Shaffer et al., 1996).	A 4-item SOP perfectionism scale from DISC-2.3	Perfectionism did not increase suicide risk after adjusting for psychiatric disorder.		
Hamilton & Schwartz (2000) Australia	104 undergraduates reported suicide ideation on GHQ questions. Group ages not given.	285 undergraduates reported no suicide ideation on GHQ questions.	4 items from GHQ-28 used to assess suicide ideation (Goldney et al., 1989).	MPS-F (excluding O)	Suicide ideators had higher MPS-F than nonsuicidal ideators. Groups differed on CM and DA. Suicide ideation differed between the low, moderate, and high perfectionism groups.		
<i>Clinical Population (N = 6)</i>							
^a Hewitt et al. (1994) Study 1 Canada	Psychiatric patients with moderate/high suicide ideation ($n = 41$). Mean age for sample ($n = 91$) 35.5 ($SD = 5.6$). $n = 42$ M, 49 F	Psychiatric patients reporting no suicide ideation group ($n = 50$).	SSI (Beck et al., 1988). Ratings of suicidal thoughts in past year and likelihood of attempting suicide in future.	MPS-H	Perfectionism and suicidality correlated. Both SOP and SPP independently predicted suicidal ideation status in a discriminant analysis.		

Boergers et al. (1998) USA	67 adolescent suicide attempters who wanted "to die." Total sample, $n = 22$ male, $n = 98$ female	53 adolescent suicide attempters who did not want "to die." Mean age 15.1, range 12–17.	Participants presented to pediatric general hospital following suicide attempt.	CAPS	High levels of depression and SPP predicted death as the primary reason for their suicide attempt.
Hewitt et al. (1998) Canada	39 suicide attempters (18 men, 21 women). Mean age = 32.63 ($SD = 9.02$)	39 inpatient controls (18 men, 21 women). Mean age = 32.89 ($SD = 9.15$)	Clinician ratings of suicide intent/lethality/risk.	MPS-H	SPP higher in suicide attempt versus non-attempt groups. DFA showed that SPP and OOP predictive of suicide attempts.
Grilo et al. (1999) USA	74 adolescent inpatients with a history of abuse (M age = 16, $SD = 1.5$)	53 depressed but non-abused adolescent inpatients (M age = 15.6, $SD = 1.5$)	SRS (Plutchik et al., 1989).	DEQ-A	SC correlated with suicide risk in abuse and nonabuse group. Evidence of SC independently predicting suicide risk in regression.
Hunter & O'Connor (2003) UK	22 Hospital parasuicide patients (M age = 35.1, $SD = 10.8$)	22 hospital patients, 22 community controls ($M = 35.8$, $SD = 32.9$ yrs).	Admitted to hospital following deliberate self-harm (DSH).	MPS-H	Parasuicides reported higher SPP than controls. SPP independently predicted group membership.
Yamaguchi et al. (2000) Japan	16 suicidal eating disorder patients. Mean age = 20.8 yrs ($SD = 4.8$)	35 nonsuicidal eating disorder patients (M age = 21.4 yrs, $SD = 5.5$)	Suicidality determined via clinical interviews.	EDI-91 items	More suicidal patients reported perfectionism than nonsuicidal patients.

Note. ^aAs the main analyses compared groups of participants (i.e., low and moderate suicide ideators), we included this study in the case control section. MPS-F = Frost's Multidimensional Perfectionism Scale; MPS-H = Hewitt & Flett's Multidimensional Perfectionism Scale; SPP = Social perfectionism; SOP = Self-oriented perfectionism; OOP = Other-oriented perfectionism; CM = Concerns over mistakes; DA = Doubts about action; DEQ = Depressive Experiences Questionnaire; DEQ-A = Depressive Experiences Questionnaire for Adolescents; SC = DEQ Self-criticism; SRS = Suicide Risk Scale; DFA = Discriminant Function Analysis; DISC-2.3 = Diagnostic Interview Schedule for Children Version 2.3; HS = Hopelessness; CAPS = Child and Adolescent Perfectionism Scale; DFA = Discriminant Function Analysis; EDI-91 = Eating Disorder Inventory; SSI = Scale for Suicide Ideation; O = Organization

ation groups differed in terms of CM and DA. The final study (Gould et al., 1998) suggested that perfectionism did not increase suicide risk after adjusting for psychiatric disorder; however, in addition to the small number of suicide cases, it is important to note two limitations of this study: (a) their perfectionism scale only tapped self-oriented perfectionism and (b) internal consistency for the scale was low (Gould et al., 1998).

Clinical Population Studies. The MPS-H or the CAPS was employed in two thirds of the case-control clinical population studies ($n = 6$, see Table 2). In the first of two adolescent studies, Boergers, Spirito, and Donaldson (1998) reported that adolescents who cited death as the reason for their suicide attempt reported higher levels of SPP (but not SOP) than those who did not wish to die. In the other adolescent study, there was clear evidence that self-criticism independently predicted suicidality (Grilo et al., 1999).

In the first of two studies, Hewitt et al. (1994) found that SPP and SOP were independent predictors of suicide ideation status, beyond the contributions of hopelessness and depression. In their second study, although they found higher levels of SPP in alcohol-dependent inpatients who had a suicide attempt history compared with those without such suicidal history, they also reported that lower levels of other-oriented perfectionism (OOP) were predictive of suicide attempts (after controlling for other variables) (Hewitt, Norton, Flett, Callander, & Cowan, 1998). Hunter and O'Connor (2003) also found some support for the unexpected OOP effect in the only case-control study of acute suicidality. In addition to the finding that SPP (but not SOP or OOP) independently differentiated the suicidal patients from the controls, they found that OOP correlated positively with positive future thinking, a cognitive variable directly implicated in suicide risk (O'Connor, 2003). Finally, Yamaguchi et al. (2000) reported that perfectionism that interferes with task completion was more often reported by the suicidal patients than the nonsuicidal patients.

Prospective/Longitudinal Studies

General Population Studies. Only two general population studies met the criteria for inclusion (Chang, 1998; Enns, Cox, Saareen, & Freeman, 2001, see Table 3), both of which recruited from student populations. First, Chang found no correlations between any of Frost's perfectionism dimensions and suicidality in Asian American students; however, concern over mistakes (CM) and doubts about actions (DA) were associated with time 2 suicide probability in the Caucasian American students. Furthermore, when perfectionism and ethnic status were entered simultaneously into regression analyses, perfectionism (i.e., Total MPS-F) was a significant predictor, accounting for 18% of variance in time 2 suicide probability. Although these findings are encouraging, they are limited because the study did not assess change in Time 1–Time 2 distress (i.e., residuals) nor did the analyses look at the individual dimensions of perfectionism.

In the second study, Enns et al. did look at changes in suicidal ideation over time. Although they found that maladaptive perfectionism (SPP, CM, & DA) was associated with suicidal ideation (and hopelessness) cross-sectionally, it did not predict Time 2 suicidal ideation. Again in these analyses, unfortunately, a composite measure of perfectionism was employed. Furthermore, the generalizability of these findings is circumscribed, given the relatively small, highly selected sample as well as the modest initial response rate (46%).

Clinical Population Studies. Only two published studies have followed clinical participants over time and, of these, only one employed multidimensional measures of perfectionism (Enns, Cox, & Inayatulla, 2003, see Table 3). Despite SPP and self-criticism being positively correlated with suicidal ideation at Time 1 (within 48 hours of hospital admission), when neuroticism and Time 1 distress were entered into the regression, SOP (albeit negatively correlated) was the only personality variable to be predictive of

TABLE 3
Longitudinal/Prospective Studies of Perfectionism and Suicidality

Study Country	Population			Suicide Risk	Perfectionism	Results
	Source and Follow-up	Gender and Age				
<i>General Population</i> (N = 2) Chang (1998) USA	185 Asian American and Caucasian American students. 4 week F/U.	70 male, 115 female Mean age 19.1 (range 17–34)		SPS-Total score only (Cull & Gill, 1982).	MPS-F	CM & DA correlated with SPS in Caucasian Americans only. MPS-F accounted for 18% of the variance in suicidal ide- ation at Time 2.
Enns et al. (2001)	96 medical students (58 at F/U 6 mths later).	56 men, 40 women Mean age: 25.1 (range 20–48)		SIQ (Reynolds, 1988).MPS-H	MPS-F	Maladaptive perfectionism asso- ciated with SIQ and it inde- pendently predicted time 2 HS not SIQ.
<i>Clinical Population</i> (N = 2) Enns et al. (2003) Canada	78 adolescent psychiatric patients F/U on dis- charge (circa 20 days after admission) & 1 yr.	59 females. Mean age = 15.4 (SD = 1.4)		SIQ (Reynolds, 1988). Admitted to hospital be- cause of suicidal ide- ation/behavior.	CAPS DEQ-A (Self-criti- cism)	SPP and SC correlated with SIQ. Neither predicted T2 SIQ after controlling for T1 SIQ and neuroticism.
Beevers & Miller (2004) USA	121 depressed inpatients (100 at F/U). 6 month F/U.	90 females. Mean age 37.97		(MSSI; Norman et al., 1986).	DAS-P (Imber et al., 1990)	DAS-P correlated with MSSI. DAS-P uniquely predicted suicidality after controlling for HS and depression.

Notes. MPS-F = Frost's Multidimensional Perfectionism Scale; MPS-H = Hewitt & Flett's Multidimensional Perfectionism Scale; CAPS = Child and Adolescent Perfectionism Scale; SPP = Social perfectionism; CM = Concerns over mistakes; DA = Doubts about action; DAS-P = Dysfunctional Attitudes Scale-Perfectionism; SIQ = Suicidal Ideation Questionnaire; F/U = Follow-up; DEQ-A = Depressive Experiences Questionnaire for Adolescents; SC = DEQ-Self-criticism; SPS = Suicide Probability Scale; SIQ = Suicide Ideation Questionnaire; HS = Hopelessness; DAS-P = Dysfunctional Attitude Scale-Perfectionism; MSSI = Modified Scale for Suicide Ideation

Time 2 suicidal ideation (circa 2 days following admission; Enns et al., 2003). With respect to the 1 year follow-up (Time 3), 19 patients were rehospitalized for suicidal ideation or behavior within the study period and neuroticism was the only personality variable to differentiate between those who were/were not readmitted. In sum, before we can generalize from these findings, replication is essential given the small sample size (67 participants completed both time points) and the mixed findings for self-related perfectionism. Finally, Beevers and Miller's (2004) correlations confirmed that perfectionism correlated with suicidal ideation in hospital and 6 months later. What is more, path analysis revealed that perfectionism uniquely predicted suicidal ideation 6 months later independent of hopelessness.

I also reviewed all the studies to determine whether there were any perfectionism-suicidality gender differences. Beyond the well established mood differences by gender, few perfectionism gender differences were evident. Indeed, the only effect found in more than one study was for social perfectionism: suicidal females tended to report higher levels of social perfectionism than males (Donaldson et al., 2000; Hewitt et al., 1992). However, gender analyses were often not reported or there were too few males to conduct reliable analyses. Testing for gender differences should be conducted as a matter of course, where appropriate.

DISCUSSION

This review focused on specifying the nature of the relationship between perfectionism and suicidality. To do so, a number of issues merit comment.

Definitions and Samples

Although the majority of studies employed one of the recognized perfectionism

scales, comparison across studies was hindered because some authors chose to exclude some subscales due to administration constraints (e.g., Dean et al., 1996), or they chose to conduct analyses using an aggregate score for perfectionism (e.g., Chang, 2002). One resolution of this issue would be to further develop briefer versions of the scales (e.g., Enns et al., 2003; Frank et al., 1997).

Direct comparison across studies was hampered by the diverse methods used to define suicidality. Many studies employed different definitions for suicidality, and where stated, they applied different inclusion/exclusion criteria. It would be helpful if, as far as possible, authors used homogenous samples; for example, suicide ideators or suicide attempters but not both. Furthermore, it is important that there is some attempt to assess suicide *intent* or, at the very least, the motive behind the self-harm episode, albeit that such classifications are not without their own difficulties and limitations. It would also be preferable to determine suicidality via a standardized diagnostic interview rather than as part of a clinical interview (Speckens & Hawton, 2005). Assessment of the lethality of the suicide attempt would facilitate more accurate assessment of whether a self-harm episode was indeed a suicide attempt. In large part, the assessment of suicidality in the papers reviewed would not have met the standards outlined in O'Carroll et al.'s (1996) landmark paper—thereby negatively influencing the reliability of my conclusions. That noted, there were a number of suicide attempter studies where the attempt was verified by clinicians (e.g., Hewitt et al., 1998). It is also worth noting that students represented the largest single population in the review. This suggests an urgent need to sample other non-clinical groups so that any conclusions can be meaningfully applied to the general population.

Another striking feature of the review was the relative paucity of studies focused on older adult and (to a lesser extent) adolescent/child populations. In addition, many studies did not report the ethnic composition of their sample; nevertheless, it is clear from

the published information that the majority of participants were Caucasian North Americans. As a matter of course, all studies should report the sample's ethnic composition.

Is Perfectionism Related to Suicidality?

Given the differences in sample size, study design, population composition, and the issues noted above, one overarching conclusion can be proffered with reasonable certainty. Aggregating the findings, self-critical evaluative concerns perfectionism (i.e., SPP, SC, CM and DA) is associated with suicidality in adults. The evidence for this conclusion comes from three sources. First, without exception SPP was correlated with suicidality cross-sectionally. Social perfectionism was also shown to distinguish between suicidal ideators/suicide attempters and controls in clinical and population-based studies. The case has yet to be made for prospective samples. Indeed, only one study focused on the prospective social perfectionism–suicidality relationship (Enns et al., 2003), and only three of the studies (Beevers & Miller, 2004; Enns et al., 2001, 2003) followed up participants beyond 4 to 5 weeks. Therefore, larger-scale prospective studies which track participants over months and years rather than days are imperative.²

Second, in each of the eight studies in which it was assessed, self-criticism was associated with suicidality. In sum, self-criticism appears to be a robust suicidal correlate in clinical populations and the findings of this review support Dunkley's conclusion that Blatt's self-criticism loads on the EC dimension (Dunkley et al., 2003). More evidence is required to demonstrate the generalizability of this effect to general populations and whether it is the active ingredient in the perfectionism–suicidality relationship prospectively.

Third, although only six studies employed Frost's measure, there was sufficient evidence to conclude that CM and DA are related to suicidality in the general population. However, as none of the clinical studies used Frost's scale, the population-based conclusion cannot be extended to clinical populations. Similarly, the evidence for a relationship among the other four Frost dimensions was inconsistent and inconclusive.

The relationships between SOP and OOP and suicidal ideation/behavior are also problematic. There is no clear, coherent picture of how they relate to suicide risk. One possible explanation for the equivocal findings is that SOP is comprised of both adaptive and maladaptive components, with characteristics of the person, the stressor, and the situation determining whether one's perfectionistic tendencies have positive or negative consequences. Indeed, taking the perfectionism and psychological well-being literature as a whole, there is considerable evidence that standard-setting that acts to motivate and drive an individual is adaptive and functional (e.g., O'Connor, O'Connor, O'Connor, Smallwood, & Miles, 2004; Rice, Leever, Christopher, & Porter, 2006). Indeed, personal standards perfectionism may reflect active striving for high standards and achievement (e.g., Dunkley et al., 2006). Finally, there are insufficient studies to draw any firm conclusions about OOP.

Although I have drawn a number of conclusions about the relationships between perfectionism and suicidality, it is important to highlight that the majority of the studies reviewed employed correlational analyses. This is problematic as such analyses are plagued by measurement error and they do not provide any information on causality. Therefore, it is imperative that this review generates hypotheses that can be tested in RCTs to determine the nature of the temporal and causal relationships. Nonetheless, there is case-control evidence herein that (social) perfectionism can discriminate between self-harmers who do/do not wish to die (Boergers et al., 1998). Indeed, Boergers et al. reported an effect size of $d = .65$ (i.e., me-

2. A recent study (O'Connor, Whyte, Fraser, Masterton, & MacHale, 2007), outwith the review window, shows that socially prescribed perfectionism predicts suicidal thinking 2 months following a suicidal episode, independent of mood.

dium to large effect in terms of Cohen [1992]) and when considered alongside recognized suicide risk factors, social perfectionism as well as depression discriminated between the wish to/wish not to die groups.

Needless to say, the case for the potency of perfectionism would be improved if the strength of the relationship between perfectionism and suicidality, when considered within the multivariate context, was better understood. More research which assesses the relative contribution of perfectionism and recognized suicide risk factors (e.g., major depression, bipolar disorder, substance abuse; Mann et al., 2005; Moscicki, 1997) is required to determine whether perfectionism accounts for a meaningful increase in the variance explained. In this vein, there is one RCT study (Riley et al., 2007) that suggests that perfectionism is causally implicated in the etiology of Axis I disorders. Riley et al. found that there was an improvement in Axis I diagnoses following cognitive behavioral therapeutic treatment for clinical perfectionism.

Perfectionism: Multidimensional and Maladaptive?

Taking a critical overview of the studies outlined here, I believe that three further conclusions follow which inform the current conceptual debate on the nature of perfectionism. First, the present findings support, in part, Dunkley et al.'s (2000, 2006) postulation that two higher order dimensions of perfectionism exist. Indeed, I would argue, consistent with others (e.g., Dunkley et al., 2006, Frost et al., 1990; Slaney et al., 2002), that self-critical evaluative concerns perfectionism (1st dimension) is the critical component of perfectionism. It is not, however, possible to confidently conclude whether, as Dunkley suggests, the setting of high standards and goals for oneself comprises their second dimension (personal standards perfectionism). Nonetheless, such a supposition is supported by a number of other studies which have investigated the relationship between perfectionism and psychological health more gen-

erally (e.g., Bieling et al., 2004; Blankstein & Dunkley, 2002; Cox et al., 2002; Dunkley et al., 2000, 2006).

Third, this review cannot directly address whether, as Shafran et al. (2002) contend, some perfectionism items "assess variables relevant to perfectionism but not the construct itself" as in the current paper I focus only on the differential relationship between the dimensions of perfectionism and suicidality rather than the conceptual differences between perfectionism and related constructs.

Clinical Implications

This review highlights the characteristics of (evaluative concerns) perfectionism that are especially pertinent to suicide risk assessment and treatment: social perfectionism, self-criticism, doubts about actions, and concerns over mistakes. Cognitive behavioral techniques (CBT) including self-monitoring, self-reinforcement, distancing, schema change, re-attribution training, and cognitive restructuring may be fruitful to tackle the cognitive factors which help to maintain perfectionism itself (e.g., Anthony & Swinson, 1998). Indeed, as noted above, there is promising evidence that CBT treatment of perfectionism reduces perfectionism 8 and 16 weeks following baseline and it improves Axis I diagnoses (Riley et al., 2007). Although encouraging, until the potency of perfectionism, when considered within the *multivariate* context, is established, we urge caution in focusing unduly on the perfectionism–suicidality relationship. What is more, despite Hamachek's (1978) classic paper highlighting the psychodynamics of "normal" and "neurotic" perfectionism, few studies have considered the underlying psychodynamics of multidimensional perfectionism. Notable exceptions are the work conducted by Blatt, Zuroff, and colleagues on self-criticism (e.g., Blatt & Levy, 2003; Zuroff, Mongrain, & Santor, 2004).

Closer inspection of the relationship among other personality variables (e.g., neuroticism and rumination), perfectionism and suicidality is also required. For example, in a

series of studies, O'Connor, O'Connor, and Marshall (2007) and O'Connor, Whyte, and colleagues (2007) showed that rumination (mediator) and positive future thinking (moderator) changed our understanding of the perfectionism–psychological distress relations. In addition, it would be desirable to clarify the extent to which perfectionism is distinct from other personality traits like neuroticism because the findings are mixed (Enns et al., 2003; Flett & Hewitt, 2002; Hewitt & Flett, 1991). Greater recognition is also required of the deleterious effects of perfectionism on the therapeutic alliance

(Blatt & Zuroff, 2002), its negative impact on perceptions of social support, and its impact on (reducing) self-disclosure during treatment.

In conclusion, this review suggests that perfectionism is related to suicidality. The evidence to date points to the pernicious effects of self-critical evaluative concerns perfectionism on the etiology and course of suicidality; however, there is an urgent need to conduct more longitudinal, experimental, and case-control studies to tease out the potency of perfectionism and to determine the causal and temporal relations.

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