Depressive personality and dysthymia: Evaluating symptom and syndrome overlap

Andrew G. Ryder[a,*], Deborah R. Schuller[b], and R. Michael Bagby[b]
[a]Concordia University
[b]University of Toronto
Centre for Addiction and Mental Health

Background: Depressive Personality (DP) is being evaluated for future inclusion in DSM. One recurring issue has been conceptual and empirical redundancy with Dysthymia (i.e., Dysthymic Disorder; DD). *Methods*: The symptom and syndrome overlap of DP and DD were tested in a clinical sample (N = 125) using both self-report and clinician ratings.
Results: Confirmatory factor analyses of the DP and DD symptoms indicated that models which separate these two syndromes had a better fit than a model in which all symptoms were classified together, particularly for the clinician-rated data. At the same time, the syndromes were highly correlated. Binary diagnostic analysis showed that over 80% of the individuals meeting criteria for DP also met criteria for DD. As predicted, the best fit was obtained when the 'psychological' symptoms of DD– low self-esteem and feelings of hopelessness– were allowed to be part of both syndromes, and 82% of patients who met criteria for both DP and DD endorsed these two symptoms.
Limitations: Clinical ratings rather than structured diagnostic interviews were used. As well, some models required modification to improve fit.
Conclusions: Depressive personality traits can be empirically separated from DD symptoms, but including DP as a categorical diagnosis would lead to a high degree of diagnostic overlap. Much of this overlap is due to sharing psychological features in common. Revisions in the diagnostic system should find a way to incorporate depressive personality traits without insisting that they be diagnosed in a categorical manner. ©2006 Elsevier B.V. All rights reserved.

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1. Introduction

Researchers and clinicians have been interested in chronic, 'minor', subthreshold depressions at least since the early writings of Kraepelin (1921). These conditions are associated with considerable morbidity and impairment (Haykal and Akiskal, 1999), but have generally not received the same attention as the major mood disorders. One problem with subthreshold depressions has been the issue of proper classification, starting at the basic level of whether these difficulties should be classified as mood disorders or personality disorders, or even whether they are properly conceived as disorders at all (Ryder and Bagby, 1999). The most recent substantive change in this area came with the publication of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III; American Psychiatric Association, 1980), which introduced the diagnosis of Dysthymic Disorder (DD) on Axis I rather than a personality disorder equivalent on Axis II. This decision proved controversial (Phillips et al., 1990).

In response to criticisms, *DSM–IV* (American Psy- chiatric Association, 1994) included a provisional cri terion set for "Depressive Personality Disorder", based on operational criteria largely developed by Akiskal (1983). Although variations on depressive personality (DP) have been proposed for decades (Ryder et al., 2005), this move towards formal inclusion has stimulated much discussion on the best way to incorporate depressive traits into the diagnostic system. Debate has centered on whether the DP disorder is conceptually distinct from Dysthymic Disorder (DD), and whether overlap rates between the two are sufficiently low to justify the formal creation of a new category (Huprich, 2001; McLean and Woody, 1995; Phillips et al., 1996).

*Corresponding author. Tel.: +1 514 848 2424x5379. Department of Psychology (PY153-2), Concordia University, 7141 Sherbrooke St. W., Montréal, Québec H4B 1R6, Canada.
Email addresses: andrew.ryder@concordia.ca (A.G. Ryder), michael_bagby@camh.net (R.M. Bagby).

We have previously argued that although the two conditions are by no means synonymous, DP – at least as described in *DSM–IV* – is a narrower construct that fits within the broad conceptual space covered by DD (Bagby et al., 2003, 2004; Ryder and Bagby, 1999; Ryder et al., 2002). For example, DD includes many physical symptoms, requires only a two-year course, and can remit and relapse; nevertheless, a DD diagnosis can be made with only psychological symptoms, an early and chronic course, and no remission. This latter presentation is, we believe, highly similar to DP (Ryder and Bagby, 1999; Ryder et al., 2002). As a result of this asymmetry, we have proposed that DP traits are important for case conceptualization and potentially for treatment, but not in the rigid categorical form proposed in *DSM–IV* (Ryder et al., 2005).

The empirical literature has supported the idea that individuals meeting provisional criteria for *DSM–IV* DP have an increased likelihood of meeting criteria for DD; however, different studies have produced widely disparate findings, with overlap as low as 18% (McDermut et al., 2003) and as high as 95% (Bagby and Ryder, 1999). From the perspective of symptom presentation, we have argued previously on theoretical grounds that most individuals with *DSM–IV* DP will also meet criteria for DD and will do so by presenting, at a minimum, with the psychological symptoms of the latter, namely, low self-esteem and The empirical literature has supported the idea that individuals meeting provisional criteria for *DSM–IV* DP have an increased likelihood of meeting criteria for DD; however, different studies have produced widely disparate findings, with overlap as low as 18% (McDermut et al., 2003) and as high as 95% (Bagby and Ryder, 1999). From the perspective of symptom presentation, we have argued previously on theoretical grounds that most individuals with *DSM–IV* DP will also meet criteria for DD and will do so by presenting, at a minimum, with the psychological symptoms of the latter, namely, low self-esteem and feelings of hopelessness. In particular, we noted that there are very few permutations involving the necessary five of seven DP traits that would not also be strongly suggestive of chronic low self-esteem and feelings of hopelessness (Ryder and Bagby, 1999).

In two previous studies we examined construct distinctiveness using different multivariate statistical techniques and explored rates of co-occurrence by means of binary diagnostic analysis, in a non-clinical student sample (Ryder et al., 2001) and in a sample of patients with major depression (Bagby and Ryder, 1999). Both studies provided evidence for the distinctiveness of the two diagnoses. At the same time, Ryder and colleagues (2001) reported that the best fitting model allowed low self-esteem and feelings of hopelessness to be part of both disorders. A high degree of overlap was also found, with most individuals meeting criteria for *DSM–IV* DP also meeting criteria for DD.

There were some limitations to this previous work in that both studies used self-report questionnaires. As well, our initial study relied on questions extracted from other instruments to approximate symptom criteria in a relatively homogeneous sample of patients diagnosed with Major Depressive Disorder (Bagby and Ryder, 1999). Although the follow-up study did use a questionnaire specifically designed to assess the traits and symptoms of these disorders (Ryder et al., 2001), the use of a non-clinical student sample limits the generalizability of these results to non-student, adult and clinical populations. In the current investigation we sought to extend our general approach to a clinical sample of outpatients referred to a depression clinic. The greater diagnostic heterogeneity of this sample allows for generalizability of the results to a broader spectrum of patients with mood disturbance than allowed in Bagby and Ryder (1999). In the current sample, participants were assessed for the *DSM–IV* defined characteristics of DP and DD, using both self-report and clinician-rated instruments.

2. Method

2.1 Procedure

Participants were outpatients referred to a psychiatric consultation service provided by a university-affiliated (Department of Psychiatry) mood disorders clinic. In accordance with the provincially funded health insurance plan, only licensed physicians can make referrals to this service and only physicians can conduct the consultation. Referring physicians are family practitioners and psychiatrists from a large Canadian metropolitan area. The sample consisted of 125 patients (51 men, 74 women) who consented to participate, completed the self-report questionnaire, and then received clinician-ratings following a clinical interview. The mean age of this sample was 39.1 years (SD = 10.47). Diagnoses included Major Depressive Disorder, Dysthymic Disorder, Depressive Disorder NOS, Personality Disorder, Bipolar Disorder, Anxiety Disorder, Psychotic disorder NOS, Body Dysmorphic Disorder, Adjustment Disorder, Sleep Disorder, and Gambling Addiction; co-morbid diagnoses were common. Sixty participants were experiencing a current major depressive episode based on clinician ratings following the interview, in keeping with previous research suggesting that the natural course of chronic and 'minor' depression is frequently punctuated by more severe episodes (Akiskal, 1994).

Each patient was informed about the study by one of three participating psychiatrists. If written consent was obtained, the patients completed the self-report questionnaire in the waiting area prior to their interview. The psychiatrist then placed it in an envelope without reviewing the responses and proceeded to interview the patient. Following the interview, the psychiatrist placed the completed clinician-rating form in the envelope with the self-report measure and returned it to

the research assistant.

The self-report contained a series of questions on depressive symptomology, previously used by Ryder and colleagues (2001), which consisted of items keyed to the *DSM–IV* diagnostic criteria for DP and DD. Participants were asked to indicate whether each trait/ symptom was present or absent. The clinician-rating was constructed along the same lines as the self-report, but with traits and symptoms rated on a three-point scale (0 = absent; 1 = sub-clinical; 2 = clinically significant). Three psychiatrists conducted the interviews and completed the clinician-ratings without prior knowledge of the self-report results. The self-report measure showed internal consistency for both DP and DD, Cronbach's α's = .71 and .72, mean inter-item r's = .26 and .31, respectively; good internal consistency was also found for the clinician-ratings, Cronbach's α's = .84 and .92, mean inter-item r's = .44 and .67.

Given that convergence of methods designed to assess DP has often been inadequate (Huprich, 2004), we examined the inter-relation of the self-report and clinician ratings in the present study. DP traits on one instrument had an average correlation of r = .57 with their counterparts on the other instrument, whereas the average cross-instrument correlation of non-corresponding traits was r = .26. Similarly, DD symptoms on one instrument had an average correlation of r = .39 with their counterparts on the other instrument, whereas the average cross-instrument correlation of non-corresponding symptoms was r = .11. All 13 self-reported symptoms were significantly correlated with their clinician-rated counterparts. Ten of 13 symptoms on a given instrument had the highest correlation with the corresponding item on the other instrument; in two further cases, the intercorrelation differed from the highest correlation by a maximum of .02. One clinician-rated DD symptom– "poor concentration or difficulty making decisions"– had a correlation with its self-reported counterpart that, although significant, was lower than several other self-reported DD symptoms.

In terms of diagnostic overlap between the two methods, 79% of diagnoses made on the clinician-ratings were confirmed by self-report. On the other hand, only 55% of diagnoses made on the self-report were confirmed by the clinician-ratings. These results are in part attributable to the fact that many more positive diagnoses, particularly for DD, were made by the self- report questionnaire. Overdiagnosis on questionnaires is often observed (Zimmerman, 1994; Zimmerman and Coryell, 1990) and the results that follow should be interpreted with this limitation in mind.

2.2 Statistical analyses

2.2.1 Confirmatory factor analyses

In order to study the relation between individual symptoms and higher-order syndromes, we used confirmatory factor analyses (CFA). Whereas exploratory factor analysis (EFA) is traditionally used to build hypotheses about data whose structure is unknown, CFA is ideally suited for data where specific a priori hypotheses have been proposed on theoretical and empirical grounds (Bollen, 1989). In the present study, we tested four different latent models (i.e., different combinations of DD and DP characteristics) that could conceptually underlie the collective set of manifest variables corresponding to *DSM–IV* DD and DP. These models were based on pre-existing theoretical work (Ryder and Bagby, 1999) and complementary data analysis using EFA (Bagby and Ryder, 1999), and were later tested in a non-clinical sample using CFA (Ryder et al., 2001).

Model A tested the assumption that DD and DP are non-distinct diagnostic constructs best represented as a single, unidimensional construct (1-factor model). The *DSM–IV* conceptualization, with the two criterion sets being seen as distinct factors, was assessed by Model B, which assigned DD characteristics to one latent factor and DP characteristics to a second latent factor. In order to explore the possibility that the *DSM–IV* DD symptoms of low self-esteem and hopelessness are more properly conceived as aspects of DP (Ryder and Bagby, 1999), Model C tested an alternative 2-factor model with DP characteristics plus these two DD symptoms on one factor and the remaining four DD symptoms on the second factor. Model D tested another alternative 2- factor model in which the two DD symptoms of low self-esteem and hopelessness were allowed to load on both factors.

Multiple statistical fit indices were employed to assess "goodness-of-fit." We chose to use different indices as each index addresses a slightly different conceptual issue or statistical approach in determining fit, and because good-fitting models produce consistent results on many different indices. A total of six different indices were used. Fit indices can be broadly categorized as absolute, relative, or non-centrality based (Ullman, 1996). The following indices were used across these three categories: (a) chi square (χ^2), chi square / degrees of freedom ratio (χ^2/df), and Goodness-of-fit Index (GFI) were the absolute fit indices; (b) Comparative Fit Index (CFI) and Non-normed Fit Index (NNFI) were the relative fit indices; and (c) Root Mean Square Error of Approximation (RMSEA) was the non-centrality-based index. To describe overall fit for these indices we used the following criteria, as collectively recommended by Bryne (1994), Kline (1998) and Ullman (1996): non- significant χ^2; the ratio of χ^2/df < 2.0; GFI, CFI, and NNFI adequate if > .90 and good if > .94; and RMSEA adequate if < .10 and good if < .05. Nested models were compared using the χ^2 test of difference.

2.2.2 Binary diagnostic analyses

The self-report responses of the patients were used to make provisional diagnoses of *DSM–IV* DP and DD. For DP, patients had to endorse at least 5 of the 7 required traits,

Table 1

Intercorrelation matrix for individual symptoms.

	DP-1	DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	DD-B1	DD-B2	DD-B3	DD-B4	DD-B5	DD-B6
DP-1: dejected, gloomy, cheerless, joyless	1.00	0.29*	0.41*	0.37*	0.35*	0.21*	0.18*	0.21*	−0.07	0.24*	0.22*	0.06	0.15
DP-2: inadequate, worthless, low self-esteem	0.63*	1.00	0.49*	0.28*	0.16	0.08	0.25*	0.15	0.07	0.16	0.22*	0.04	0.18*
DP-3: critical, blaming, derogatory to self	0.55*	0.69*	1.00	0.46*	0.20*	0.17	0.41*	0.17	0.10	0.17	0.40*	0.03	0.15
DP-4: brooding, given to worry	0.44*	0.42*	0.48*	1.00	0.27*	0.19*	0.25*	0.12	0.10	0.04	0.16	−0.09	0.11
DP-5: negativistic, critical, judgmental to others	0.27*	0.15	0.14	0.21*	1.00	0.35*	0.07	0.14	0.10	0.04	0.09	−0.04	−0.09
DP-6: pessimistic	0.45*	0.49*	0.50*	0.47*	0.29*	1.00	−0.08	0.18*	0.18*	−0.09	0.05	−0.08	0.08
DP-7: guilty, remorseful	0.48*	0.61*	0.67*	0.43*	0.14	0.45*	1.00	0.23*	0.14	0.27*	0.15	0.13	0.22*
DD-B1: poor appetite or overeating	0.32*	0.38*	0.43*	0.17	0.13	0.27*	0.34*	1.00	0.36*	0.36*	0.33*	0.25*	0.21*
DD-B2: insomnia or hypersomnia	0.39*	0.48*	0.41*	0.26*	0.15	0.27*	0.34*	0.68*	1.00	0.32*	0.33*	0.32*	0.21*
DD-B3: low energy or fatigue	0.44*	0.47*	0.47*	0.25*	0.14	0.32*	0.39*	0.70*	0.79*	1.00	0.33*	0.32*	0.39*
DD-B4: low self-esteem	0.52*	0.62*	0.64*	0.37*	0.23*	0.43*	0.54*	0.46*	0.62*	0.70*	1.00	0.47*	0.29*
DD-B5: poor concentration or indecisiveness	0.48*	0.45*	0.42*	0.25*	0.24*	0.32*	0.38*	0.55*	0.69*	0.75*	0.59*	1.00	0.17
DD-B6: feelings of hopelessness	0.49*	0.48*	0.39*	0.32*	0.25*	0.34*	0.41*	0.59*	0.71*	0.76*	0.61*	0.80*	1.00

Self-report data are reported above the diagonal, clinician-rated data are reported below the diagonal. $*p < .05$.

whereas for DD patients had to endorse criterion A and 2 of 6 symptoms from criterion B. This method resulted in four groups: (a) DD alone; (b) DP alone; (c) both disorders; (d) neither disorder. The same procedure was used to classify patients based on clinician ratings. We predicted that there would be considerable overlap in the direction of most patients with DP also meeting criteria for DD, but not necessarily the reverse. Although there are no precise guidelines for problematically high overlap, we have argued previously (Ryder and Bagby, 1999) that overlap in excess of 50% implies conceptual murkiness that worsens as the overlap approaches 100%.

3. Results

3.1 Confirmatory factor analysis

Correlation coefficients between each indicator (i.e., symptom) are shown in Table 1. Parameter estimates, which show the association between each indicator and the hypothesized underlying latent factor (i.e., syndrome), are shown in Table 2. These initial analyses revealed a non-significant parameter estimate for Model D in both the self-report and clinician-rating data. We therefore constructed a formal structural equation model in which the symptoms of low self-esteem and hopelessness were indicators for a third factor, which in turn was predicted by both the DD and DP factors. Subsequently, the original Model D was relabeled as Model D_1, and the revised version was labeled Model D_2. The configuration of the more complex Model D_2 was based on the same theoretical expectations as Model D_1, namely that low self-esteem and hopelessness would be associated with both DD and DP (Ryder and Bagby, 1999; Ryder et al., 2002). All models were tested with STATISTICA (Statsoft, 2005), using correlated latent factors for all two-factor models.

Table 3 summarizes the fit indices for each model tested with CFA. All six criteria indicated an inadequate fit for Models A and C for both the self-report and clinician-rated data. For the self-report data, Models B, D_1, and D_1 both had adequate fit for χ^2/df ratio and RMSEA, but had inadequate fit for the remaining indices. For the clinician-rated data, Model B had good fit for CFI and NNFI, and adequate fit for χ^2/df ratio and RMSEA; Model D_1 had a significant χ^2, good fit for CFI, NNFI, and RMSEA, and adequate fit for χ^2/df ratio and GFI; and Model D_2 had good fit for CFI, NNFI, and RMSEA, adequate fit for χ^2/df ratio, and inadequate fit for GFI. For self-report, Models B, C, D_1, and D_2 all had significantly better fit than did the 1-factor Model A, χ^2_{diff} (1) = 65.98, χ^2_{diff} (1) = 32.51, χ^2_{diff} (3) = 72.84, and χ^2_{diff} (3) = 72.47, all p's < .05, respectively. For clinician-ratings, Models B, C, D_1, and D_2 again had significantly better fit than Model A, χ^2_{diff} (1) = 127.20, χ^2_{diff} (1) = 70.36, χ^2_{diff} (3) = 152.60, and χ^2_{diff} (3) = 138.35, all p's < .05. It is worth noting that whereas these results suggest a two-factor model, the factor intercorrelations were rather high, particularly for the clinician-rated data, suggesting that the two latent constructs are strongly related (refer to Table 2).

Table 2

Parameter estimates and factor correlations.

	Model A		Model B		Model C		Model D_1		Model D_2	
	1	1	2	1	2	1	2	1	2	3
Self-Report Data										
DP-1: dejected, gloomy, cheerless, joyless	0.26*	0.28*		0.28*		0.27*		0.27*		
DP-2: inadequate, worthless, low self-esteem	0.26*	0.28*		0.28*		0.28*		0.28*		
DP-3: critical, blaming, derogatory to self	0.32*	0.37*		0.37*		0.39*		0.39*		
DP-4: brooding, given to worry	0.24*	0.29*		0.28*		0.28*		0.28*		
DP-5: negativistic, critical, judgmental to others	0.15*	0.17*		0.16*		0.16*		0.16*		
DP-6: pessimistic	0.07*	0.08*		0.08*		0.08*		0.08*		
DP-7: guilty, remorseful	0.19*	0.18*		0.19*		0.18*		0.18*		
DD-B1: poor appetite or overeating	0.20*		0.24*		0.27*		0.24*		0.24*	
DD-B2: insomnia or hypersomnia	0.13*		0.20*		0.21*		0.21*		0.21*	
DD-B3: low energy or fatigue	0.11*		0.15*		0.15*		0.15*		0.15*	
DD-B4: low self-esteem	0.21*		0.25*	0.18*		0.09*	0.21*			0.36*
DD-B5: poor concentration or indecisiveness	0.09*		0.17*		0.15*		0.18*		0.18*	
DD-B6: feelings of hopelessness	0.13*		0.15*	0.10*		0.03	0.14*			0.21*
Factor *r*	–	0.42	0.44	0.29	0.29					
Clinician-rated data										
DP-1: dejected, gloomy, cheerless, joyless	0.54*	0.63*		0.63*		0.63*		0.64*		
DP-2: inadequate, worthless, low self-esteem	0.54*	0.68*		0.66*		0.68*		0.68*		
DP-3: critical, blaming, derogatory to self	0.51*	0.67*		0.64*		0.68*		0.67*		
DP-4: brooding, given to worry	0.32*	0.44*		0.42*		0.44*		0.45*		
DP-5: negativistic, critical, judgmental to others	0.21*	0.21*		0.23*		0.21*		0.22*		
DP-6: pessimistic	0.43*	0.57*		0.54*		0.56*		0.57*		
DP-7: guilty, remorseful	0.47*	0.62*		0.59*		0.62*		0.62*		
DD-B1: poor appetite or overeating	0.65*		0.68*		0.70*		0.69*		0.69*	
DD-B2: insomnia or hypersomnia	0.70*		0.73*		0.74*		0.74*		0.74*	
DD-B3: Low energy or fatigue	0.68*		0.71*		0.73*		0.72*		0.73*	
DD-B4: low self-esteem	0.63*		0.59*	0.64*		0.38*	0.34*			0.49*
DD-B5: poor concentration or indecisiveness	0.68*		0.69*		0.66*		0.69*		0.68*	
DD-B6: feelings of hopelessness	0.69*		0.71*	0.56*		0.04	0.68*			0.53*
Factor *r*	–	0.66	0.74	0.61	0.61					

$* p < .05$.

3.2. Binary diagnostic analysis

Assignment of individuals to diagnostic categories based on self-report yielded 47 patients in the DP group, 39 (83%) of whom were also classified as having DD. When participants were assigned using clinician ratings, 32 of 38 (84%) patients meeting *DSM-IV* DP criteria also met criteria for DD. Given that almost half of the sample was currently experiencing a major depressive episode, we re-ran these analyses splitting the sample into depressed and non-depressed participants. On self- report, 22 of 24 (92%) depressed and 17 of 23 (74%) non-depressed patients in the DP group were also classified as having DD. For the clinician ratings, 20 of 24 (83%) depressed and 12 of 14 (86%) non-depressed patients meeting *DSM–IV* DP criteria also met criteria for DD. These findings suggest that current depressed mood may have inflated the overlap rate on the self-report data, but did not affect the clinician-rating data.

Using the clinician ratings, we further explored the extent to which overlap could be attributed to the DD symptoms of low self-esteem and feelings of hopelessness. Of the 38 patients meeting *DSM–IV* DP criteria, 33 (87%) reported depressed mood for over two years, with two reporting subclinical levels, and three denying this symptom; 36 (95%) reported low self-esteem, with two reporting subclinical levels; and 32 (84%) reported feelings of hopelessness, with two reporting subclinical levels, and four denying this symptom. Overall, 31 of 38 (82%) patients with DP reported low self-esteem and feelings of hopelessness. Looking at those individuals with and without depression, 11 of 14 (79%) depressed and 20 of 24 (83%) non-depressed patients with DP also reported these two DD symptoms, again suggesting sim-

Table 3

Summary of confirmatory factor analyses for traits and symptoms.

	χ^2	*df*	χ^2/df	GFI	CFI	NNFI	RMSEA (point)	RMSEA (lower)	RMSEA (upper)
Self-report									
Model A	181.16*	65	2.86	0.79	0.60	0.52	0.14	0.12	0.16
Model B	115.18*	64	**1.80**	0.88	0.83	0.79	**0.08**	0.05	0.10
Model C	148.65*	64	2.32	0.85	0.72	0.66	0.10	0.08	0.12
Model D_1	108.32*	62	**1.75**	0.89	0.85	0.80	**0.07**	0.05	0.10
Model D_2	108.69*	62	**1.75**	0.89	0.84	0.80	**0.07**	0.05	0.10
Clinician-rated									
Model A	225.09*	65	3.46	0.65	0.79	0.75	0.21	0.19	0.23
Model B	97.89*	64	**1.53**	0.87	**0.96**	**0.95**	**0.07**	0.04	0.10
Model C	154.73*	64	2.42	0.82	0.88	0.85	0.11	0.09	0.14
Model D_1	**72.49**	62	**1.17**	**0.90**	**0.99**	**0.98**	**0.05**	0.00	0.08
Model D_2	86.74*	62	**1.40**	0.89	**0.97**	**0.96**	**0.06**	0.02	0.09

GFI = Goodness of Fit Index; CFI = Comparative Fit Index; NNFI = Non-Normed Fit Index; RMSEA = Root Mean Square Error of Approximation. Indices meeting criteria for good fit are indicated in boldface. *$p < .05$.

ilar findings regardless of depressive status.

Finally, we used the results from the clinician-rated data to examine the six patients who met *DSM–IV* DP criteria but did not meet criteria for DD. Three of these patients did not have clinically significant levels of depressed mood for the past two years, despite having an adequate number of other symptoms. Two further patients lacked both depressed mood and sufficient symptoms. The remaining patient had depressed mood but lacked the required number of other symptoms.

4. Discussion

In the current investigation, using two methods of assessment and two approaches to data analysis, empirical support for the distinctiveness of *DSM–IV* defined DP and DD is mixed. On the one hand, the CFA results support two separate factors for DP and DD, with Model B (i.e., based on DSM-IV) and Model D_2 (i.e., wherein a third factor composed of low self-esteem and hopelessness is predicted by both DP and DD factors) having overall good fit and also providing significantly better fit than the unidimensional Model A. Despite variation in sample composition and research methodology, there are now three studies that support the notion that the characteristics of *DSM–IV* DP and DD can be separated using multivariate statistical techniques (see Bagby and Ryder, 1999; Ryder et al., 2001). The best fit occurs, however, when low self-esteem and feelings of hopelessness are associated with both DP and DD (i.e., Model D_2). This finding is consistent with our expectation that these two DD symptoms fit most closely with the characterological emphasis of DP and may be responsible for the high degree of overlap between these diagnoses. Indeed, over 80% of individuals who meet criteria for DP also meet criteria for DD in this sample, regardless of whether self-report or clinician-rating methods are used. Evidence for overlap is further bolstered by the high correlations observed between the two constructs in the CFAs, especially for the clinician-ratings.

Our findings are largely in keeping with previous research studying the relation between DP and DD, which found a range of 18% to 95% overlap, with an estimated average across studies of around 50% (Bagby and Ryder, 1999). It is our opinion that an overlap of approximately 50%, and certainly over 80% as found in the present study, is an unacceptable level of comorbidity for two conditions that also share many theoretical similarities. We previously reviewed literature suggesting that the similarities extend beyond clinical description and empirical overlap (Ryder et al., 2002); for example, family history research shows that DP is linked much more closely with the mood disorders than with the personality disorders (Cassano et al., 1999; Klein, 1990, 1999; Klein et al., 1988; Klein and Miller, 1993; Kwon et al., 2000).

There are some limitations to this investigation. Inter-rater agreement between pairs of rating psychiatrists was not obtained for the clinical interviews. It is unlikely, however, that inter-rater bias affected the findings, as the pattern of results for the clinician-rating data was similar to – and arguably superior to – the results from the self-report data. There was also a tendency for the self-report to diagnose many individuals who were not similarly diagnosed on the clinician-rating, a pattern that may have led to the generally weaker fit estimates for the self-report data.

More central to our predictions, the inclusion of individuals experiencing Major Depressive Episodes may have led

to a global over-endorsement of traits and symptoms. This effect might have been expected given the increased symptom severity in this group, not to mention the possibility of a negative bias when depressed patients were asked to report in hindsight on longstanding problems. Over-endorsement might in turn have led to spuriously high estimates of diagnostic overlap; however, a comparison of depressed and non-depressed individuals did not show this effect. Unfortunately, the sample size did not permit separate testing of our models in depressed and non-depressed subsamples. Indeed, our sample size was near the lower limit for the CFA procedures used here, although the outcomes from this investigation do replicate previous results from different populations with larger samples. One recent study using a particularly large sample of adult psychiatric outpatients reported particularly low rates of DD in *DSM–IV* DP (McDermut et al., 2003); this study did not include analyses of these constructs at the level of individual symptoms and traits, so it is impossible to determine the criteria that led to a diagnosis of one disorder but not the other.

It is also important to note that results from the self-report data did not provide unequivocal support for Model D_2; only two fit indices suggested this model to be at least an adequate fit based on the self-report data, and the improvement from the *DSM–IV* based Model B was negligible. The self-report data is best interpreted as general support for a 2-factor over a 1-factor model, without a clear indication of which specific 2-factor solution is best. A more compelling case for the complex role of low self-esteem and feelings of hopelessness can be found in the clinician-rating data, which on the whole had better fit indices. This pattern of results is much the same as outcomes from previous investigations, which used different samples and statistical procedures (Bagby and Ryder, 1999; Ryder et al., 2001), further bolstering the position that low self-esteem and feelings of hopelessness characterize both DP and DD, helping to the high degree of diagnostic overlap observed.

The present data support the idea, articulated elsewhere (Ryder and Bagby, 1999; Ryder et al., 2001), that the categorical diagnoses of *DSM–IV* DP and DD have a hierarchical relation. Individuals with DP most often fail to meet criteria for DD because they lack sufficient severity and/or duration of clinical depressed mood, consistent with Klein's (1990) concept of a 'spectrum' relation between the two disorders. It is incumbent upon supporters of DP as a category of disorder to demonstrate that those few individuals with a sole DP diagnosis are sufficiently distinct and impaired enough to warrant a psychiatric diagnosis and specific treatment. The temperamental features of DP, and indeed of DD, might better be conceived as a normal ac- centuation of a general set of traits (Akiskal, 1994). Other categorical solutions, such as shifting the 'psychological' symptoms of DD to DP are not sup- ported by data and could result in mixed cases going undiagnosed (Ryder and Bagby, 1999; Klein, 1999).

We nonetheless suspect that such solutions do not go far enough and would only serve the purpose of ensuring that these diagnoses are retained in some form (Ryder et al., 2002). A more radical solution to this controversy would involve a move away from categorical diagnoses of personality disorders (Clark and Watson, 1999). Many of the problems discussed in this paper are similar to those identified for other personality disorders, particularly ones with closely matching Axis I disorders (Widiger and Shea, 1991); one example is the relation between Generalized Social Phobia and Avoidant Personality Disorder (Alden et al., 2002). Criticisms of the current Axis II personality disorder system have focused on: (a) difficulties in discriminating the various traits of the disorders from each other; (b) low levels of inter-rater agreement; (c) high levels of co-morbidity; (d) questionable clinical utility; (e) conceptual inadequacy in covering the domain of personality psychopathology; and (f) the validity of discrete diagnostic categories for the personality disorders (Clark et al., 1997; Livesley, 1998; Ryder et al., 2002).

In response to these ongoing and significant criticisms, many authors have proposed a reconceptualization of personality psychopathology using a dimensional model (e.g., Clark and Watson, 1999; Harkness and McNulty, 1994; Livesley, 1998; Markon et al., 2005; Widiger, 2000; Widiger et al., 2002). There exists increasing evidence suggesting that personality traits are normally distributed in the population (Costa and McCrae, 1992), and that abnormal personality features represent extremes of these traits (Costa and Widiger, 2002). In such a system, the recurring problem of 'co-morbidity' is to be expected, and may in fact be an inappropriate way of characterizing the relation between personality and Axis I psychopathology (Livesley, 2003). A considerable amount of research will of course be required to identify the best dimensional model and the position of depressive personality traits within such a model.

Some research has demonstrated that depressive personality is associated with several specific traits, including harm avoidance (Abrams et al., 2004; Lyoo et al., 1998); introversion and self-criticism (Klein, 1990); high negative affectivity and low positive affectivity (Klein and Shih, 1998); low novelty seeking and use of adaptive defense mechanisms (Lyoo et al., 1998); low optimism and low hopefulness (Huprich and Frisch, 2004); and perfectionism (Huprich, 2003a). Moreover, there are efforts to make sense of these and other relations within the overarching framework of a personality and psychopathology model. Several different models have been proposed, many of which involve traits similar to those found in the well-known Five-Factor Model of Personality (FFM; Costa and McCrae, 1992) (Markon et al., 2005). Arguments in favor of this model, and the ways in which DP traits might be incorporated into it, are presented elsewhere (Costa and Widiger, 2002; Ryder et al.,

2002, 2005).

Recent empirical work has been conducted to determine the relation between DP and the traits of the FFM. At the domain level, DP is consistently described by the same core traits – high neuroticism (or negative affect) and low extraversion (or positive affect) – that also characterize individuals with depression (e.g., Klein and Shih, 1998; Clark, 1993; Clark and Watson, 1991; Bagby et al., 1995, 1997). At the facet level, there is now emerging evidence to suggest that DP has particularly strong links with high anxiety, high depression, high self-consciousness, and low tendermindedness (Bagby et al., 2004; Huprich, 2003b). Other traits not theoretically predicted to be part of depressive personality were also related to DP, an issue encountered for personality disorders more generally (e.g., Bagby et al., 2005) that may be a consequence of the diagnostic categories being insufficiently homogeneous. Regardless, it is notable that personality traits found to be associated with DP are identical or similar to traits found to predispose individuals to depressive episodes (Bagby and Ryder, 2000; Klein and Shih, 1998), and that prediction of depression is improved when state components are separated out from personality assessment tools (Clark et al., 2003).

A different, but potentially related, system has been proposed by Akiskal (1998, Akiskal and Akiskal, 1992) comprising five subaffective temperaments, namely, depressive, hyperthymic, cyclothymic, irritable, and anxious. As noted by Karam et al. (2005), the first four of these temperaments were originally described by Kraepelin (1921), and the idea of a continuum between temperament and the major mood disorders is ultimately based on Kretschmer (1936). In a study of these five temperaments using the TEMPS-A (Akiskal and Akiskal, 2005; Akiskal et al., 2005), depressive temperament was positively related to negative affect and negatively related to positive affect (Blöink et al., 2005), matching the DP findings described earlier. The link between DP and anxious personality traits found using the FFM has been found for the depressive temperament as well. A high degree of association is often found between the depressive and anxious temperaments, and items assessing anxious cognitions load on both depressive and anxious factors (Karam et al., 2005). When anxious temperament has been clearly differentiated from depressive temperament, the former is defined primarily by somatic rather than cognitive symptoms of anxiety (Erfuth et al., 2005). In contrast, anxious cognitions are not a part of the current *DSM–IV* definition of DP.

In a revised system, such as the ones described above, individuals with a mood disorder diagnosis would receive that diagnosis on Axis I, with room to describe the specifics of their associated personality traits or temperamental styles on Axis II (e.g., Widiger, 2000; Widiger and Simonsen, 2005; Widiger et al., 2005). Other individuals who are not clearly disordered could still be described on Axis II, with trait descriptions being used to understand their problems in living without saddling them with a poorly validated diagnosis. Note that while the emphasis here has been on the problems with introducing a new PD, we do not wish to uncritically defend the status quo for DD. Indeed, there is evidence that the current diagnostic system under-represents psychological symptoms despite the fact that these symptoms are very common and form a cluster of symptoms distinct from the somatic symptoms emphasized by the current nosology (Serretti et al., 1999). This concern is reflected in the inclusion of alternative DD criteria in Appendix B of *DSM–IV*, alongside the DP disorder. If somatic and psychological dimensions of dysphoria constitute distinct but correlated groups of symptoms, it may be necessary to rethink DD's status as a categorical diagnosis as well.

Regardless of which solution is ultimately chosen as the best way of conceptualizing depressive personality traits, it is our contention that the present study supports the existence of these traits as distinct, at least in part, from chronic depressive symptoms. At the same time, the study calls into question the distinctiveness of a categorical DP syndrome. Whereas such findings by no means suggest that depressive personality traits should disappear altogether, they do cast doubt on the adequacy of the *DSM–IV* Appendix B proposal of including a DP disorder on an otherwise little-changed Axis II. A comprehensive overhaul of the present system is in order, and future research should focus increasingly on ways of reconciling the state-like and trait-like aspects of low mood and its associated features within a single framework.

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