

Interpersonal Problems, Dependency, and Self-Criticism in Major Depressive Disorder

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Objectives: The goal of the present research was the examination of overlap between 2 research traditions on interpersonal personality traits in major depression. We hypothesized that Blatt's (2004) dimensions of depressive experiences around the dimensions of relatedness (i.e., dependency) and self-definition (i.e., self-criticism) are associated with specific interpersonal problems according to the interpersonal circumplex model (Leary, 1957). In addition, we examined correlations of interpersonal characteristics with depression severity. **Method:** Analyses were conducted on 283 patients with major depressive disorder combined from 2 samples. Of the patients, 151 participated in a randomized controlled trial in the United States, and 132 patients were recruited in an inpatient unit in Germany. Patients completed measures of symptomatic distress, interpersonal problems, and depressive experiences. **Results:** Dependency was associated with more interpersonal problems related to low dominance and high affiliation, while self-criticism was associated with more interpersonal problems related to low affiliation. These associations were independent of depression severity. Self-criticism showed high overlap with cognitive symptoms of depression. **Conclusion:** The findings support the interpersonal nature of Blatt's dimensions of depressive experiences. Self-criticism is associated with being too distant or cold toward others as well as greater depression severity, but is not related to the dimension of dominance. © 2014 Wiley Periodicals, Inc. *J. Clin. Psychol.* 71:93–104, 2015.

Keywords: major depressive disorder; personality; interpersonal problems

Major depressive disorder (MDD) is a clinically and etiologically heterogeneous condition evidencing wide symptomatic and response variability. Owing to the strong interpersonal component of depression, efforts to understand and explain this variability focused on the investigation of possible associations between personality, interpersonal factors, and depression (Klein, Kotov, & Bufferd, 2011). Influential research in this area has identified specific dimensions of personality that are central to phenotypic variability in depression. Although based on different theoretical models, Blatt (1974) and Beck (1983) each described two major interpersonal dimensions underlying depressive subtypes. From either theoretical perspective, an elevated need for interpersonal relatedness (i.e., dependency/sociotropy) results in an increased risk for depression

This research was supported in part by grants from the National Institute of Mental Health (R01 MH 061410) and from the German Research Foundation (DFG DI 1690/2).

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We thank our research teams at the University of Pennsylvania and the University of Heidelberg who supported the data collection and management for this study.

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in the face of stressors such as loss or loneliness. In contrast, an increased need for self-definition within interpersonal relationships (i.e., self-criticism/autonomy) may lead to depression when a person experiences performance-related failure, feelings of inferiority, or diminished self-worth.

Based on Blatt's (1974) model of personality vulnerabilities leading to depression, the Depressive Experiences Questionnaire (DEQ) was developed to measure the continuum between normal and pathological depressive experiences (Blatt, D'Afflitti, & Quinlan, 1976). The DEQ assesses three factors of personality: dependency, self-criticism, and efficacy. These factors have been replicated across cultures and different samples, ranging from college students to diverse patient groups (e.g., Beutel et al., 2004; Yao, Fang, Zhu, & Zuroff, 2009). The two dimensions of dependency and self-criticism are assumed to be vulnerabilities and influence the likelihood and severity of depressive symptoms.

Associations between the two types of vulnerability and symptom severity typically range between low and moderate, with correlations usually higher for self-criticism than for dependency (Luyten et al., 2007). This is at least partially because of the fact that self-report instruments for depression severity, such as the Beck Depression Inventory (BDI; Beck, Steer, & Brown, 1996), emphasize characteristic (cognitive) symptoms of self-critical experiences (e.g., guilt, low self-esteem) more than symptoms typical for dependency (e.g., loneliness, fear of rejection). However, only few previous studies have differentiated between clusters of cognitive versus somatic and affective depressive symptoms (Luyten et al., 2007).

Themes of relatedness and self-definition can be found in several theoretical approaches aimed at understanding adaptive and psychopathological personality. In the current study, we sought to examine the association between Blatt's dimension of depressive vulnerabilities and the interpersonal circumplex (IPC) theory of personality (Leary, 1957; Pincus & Ansell, 2003). The IPC model proposes two fundamental dimensions underlying individual differences in interpersonal behavior: agency (dominance vs. submissiveness) and communion (affiliation vs. coldness). In clinical populations, the IPC is usually operationalized via interpersonal problems, which are frequently measured with the Inventory of Interpersonal Problems (IIP; Horowitz, Alden, Wiggins, & Pincus, 2000).

Luyten and Blatt (2013) have pointed out the assumed overlap between the IIP and other interpersonal theories of depression. Specifically, the need for relatedness is assumed to be associated with interpersonal problems related to communion (being too friendly), whereas the need for self-definition has been theoretically related to the IPC dimension of agency (being too dominant). A few empirical studies have examined the interrelation between the IPC and dimensions of depressive experience. However, most of these studies were conducted among college students (e.g., Hmel & Pincus, 2002; Mongrain, Lubbers, & Struthers, 2004). Desmet et al.'s (2007) study is the only one investigating the interrelation of Blatt's dimensions of depressive experience with interpersonal problems around the IPC in a large heterogeneous outpatient sample. They found that DEQ dependency was associated with interpersonal problems related to submissiveness and high affiliation, whereas self-criticism showed the highest correlations with problems related to low affiliation.

The current study aims to examine the associations between Blatt's dimensions of depressive experiences with specific interpersonal problems in a sample of depressive patients. Interpersonal distress as well as dependency and self-criticism are expected to correlate with greater symptom severity. Second, we examine the correlations between dimensions of depressive experience (DEQ) and the IIP. Based on previous studies, we expect dependency to be positively associated with interpersonal distress, and located in the friendly-submissive octant of the IPC. Self-criticism is expected to also correlate positively with interpersonal distress, its IPC location should be around the cold octant. Finally, we check whether or not the associations between depressive experiences and interpersonal problems are independent of depression severity. To examine the research questions, two samples from different treatment institutions (outpatient randomized controlled trial [RCT], inpatient psychotherapy) and different countries (Germany, United States) were used. This approach was chosen to generalize findings over a heterogeneous group of depressive patients.

Table 1
Sociodemographic and Clinical Characteristics

	Full sample	German inpatients	U.S. outpatients	<i>t</i>	<i>df</i>	<i>p</i>
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>			
Age (<i>N</i> = 283)	36.9 (11.5)	35.8 (10.8)	37.5 (12.1)	-1.24	281	.217
	<i>N (%)</i>	<i>N (%)</i>	<i>N (%)</i>	χ^2	<i>df</i>	<i>p</i>
Gender female (<i>N</i> = 283)	180 (63.6)	88 (66.7)	92 (60.9)	1.00	1	.317
Ethnic group (<i>N</i> = 277)				80.2	3	<.001
European/ Caucasian	198 (71.5)	124 (98.4)	74 (49.0)			
African	67 (24.6)	1 (0.83)	66 (43.7)			
Latino	8 (2.9)	0	8 (5.3)			
Asian	4 (1.5)	1 (0.83)	3 (2.0)			
Comorbid diagnoses (<i>N</i> = 275)						
Dysthymia	47 (17.1)	31 (24.4)	16 (11.7)	5.6	1	.024
Anxiety	141 (51.3)	74 (53.6)	67 (48.9)	0.6	1	.470
Eating	31 (11.3)	23 (16.7)	8 (5.8)	8.1	1	.005
Somatoform	21 (7.6)	15 (10.9)	6 (4.4)	4.1	1	.047
Substance abuse	53 (19.3)	9 (6.3)	44 (32.1)	28.9	1	<.001
Personality (Axis-II)	114 (41.5)	51 (37.0)	63 (46.0)	2.3	1	.143

Note. *M* = mean; *SD* = standard deviation; *df* = degree of freedom. Chi-square and *t* tests examine differences between two patient groups. Sample sizes vary due to missing data.

Methods

Participants

The sample comprised two patient groups. One group (*n* = 151) participated in a RCT comparing the efficacy of outpatient psychotherapy versus pharmacotherapy for depression at a large Northeastern university in the United States (Barber, Barrett, Gallop, Rynn, & Rickels, 2012). The second group of patients (*n* = 132) were treated with inpatient psychotherapy at a German university hospital. All patients were diagnosed with MDD according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). Sociodemographic characteristics and comorbidities are depicted in Table 1.

Measures

DEQ (Beutel et al., 2004; Blatt et al., 1976). The DEQ is a 66-item self-report measure, and each item is rated on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The factor dependency measures depressive experiences related to interpersonal relatedness, e.g., feelings of loss or abandonment. The factor self-criticism assesses depressive experiences related to self-definition, i.e., experiences of failure, low self-worth, or diminished autonomy. A third factor, efficacy, measures a person's confidence about personal resources and/or capabilities. In the current article, only the scales dependency and self-criticism are examined, because they operationalize Blatt's theory of two underlying interpersonal dimensions in depression.

The DEQ has shown acceptable to good reliability and validity (Blatt, 2004). The original DEQ factor scores are based on a U.S. college sample and have been replicated across different translations in several cultures. However, despite their high correlations with Blatt's (1976) factors, the German DEQ scale scores deviate from the American scores in absolute values (Beutel et al., 2004). There are no representative norms available for the U.S. or the German population. To allow for unbiased correlation analyses, scales for both samples were based on Blatt and colleagues' original scoring systems in the present article.

IIP (Horowitz, Alden, et al., 2000; Horowitz, Strauß, & Kordy, 2000). The IIP is a 64-item self-report questionnaire assessing interpersonal difficulties and sources of distress. The IIP has shown good psychometric properties. Norms are available from representative national surveys for American and German samples (Brähler, Horowitz, Kordy, Schumacher, & Strauss, 1999; Horowitz, Alden, et al., 2000). Mean values differ in the two populations, with Germans generally describing higher levels of interpersonal problems than U.S. participants. There are eight subscales (comprising eight items each) conceptually organized in a circumplex manner around the two IPC dimensions of affiliation and dominance. The octants are labeled Dominance (PA, 90°), Vindictive/Self-Directed (BC, 135°), Cold (DE, 180°), Socially Avoidant (FG, 225°), Nonassertive (HI, 270°), Exploitable (JK, 315°), Overly Nurturant (LM, 0°), and Intrusive (NO, 45°).¹

For the current study, IIP octant scores were standardized based on the respective national norms. Internal consistencies were adequate to high (Cronbach's alpha = .93 for the total score; octant scales between .701 and .873). Moreover, the CircE fit indices (Grassi, Luccio, & Di Blas, 2010) showed an excellent fit to a circumplex model with equal spacing and equal communality (comparative fit index [CFI] = .962, Tucker-Lewis index [TLI] = .956, root mean square error of approximation [RMSEA] = .087).

Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960). The 17-item version of the HRSD is an observer-rated measure of depression severity. A variety of depressive symptoms are assessed including depressed mood, guilt, suicidality, and several neurovegetative symptoms. Interrater reliability for trained observers is high (intra class correlation [ICC] = .92 in the U.S. sample and .96 for 48 patients of the German sample). The HRSD has been frequently criticized for its low internal consistency (Cronbach's alpha in the current study was .574), and for its validity in terms of factor structure. However, the HRSD continues to serve as gold standard for observer rated depression severity (Bagby, Ryder, Schuller, & Marshall, 2004).

BDI (Beck, Steer, & Brown, 1996). The revised BDI-II is a 21-item self-report measure of depression. Patients are asked to rate the severity of each symptom on a 4-point scale, depression severity is calculated as sum score from all items. Cronbach's alpha was .825 in the current sample. In addition to the global sum score, a cognitive and a somatic-affective subscale have been proposed (Beck, Steer, & Brown, 1996).

Procedure

Recruitment of the outpatient RCT sample was based on study advertisements in the local media and referrals by local clinicians. Individuals contacting the center were screened to determine eligibility for the RCT. Patients with a primary diagnosis of MDD, scoring at least 14 points on the 17-item HRSD, and free from current psychotic features were accepted into the study. Recruitment of the inpatient sample took place immediately after hospital admission. Inclusion criterion was a primary diagnosis of MDD; there was no minimum HRSD score required. The inpatient unit does not admit patients with acute psychotic features, current substance abuse, or acute suicidality.

Structured clinical interviews for DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1994), assessment of observer-rated depression with the HRSD, and the distribution of self-report questionnaires (DEQ, IIP, BDI-II) took place at intake before start of treatment for the outpatient sample and within the first week of treatment for the inpatient sample. In both samples, master's- or doctoral-level psychologists conducted standardized diagnostic interviews. Part of the inpatient sample answered the BDI-I instead of the BDI-II. The original authors revised the BDI-I to better reflect DSM-IV criteria for major depression. However, because scores tend to

¹Interpersonal dimensions were computed as $affiliation = .25*(M_{LM} - M_{DE}) + (.707*(M_{JK} + M_{NO} - M_{BC} + M_{FG}))$; and $dominance = .25*(M_{PA} - M_{HI}) + (.707*(M_{BC} + M_{NO} - M_{FG} - M_{JK}))$. Interpersonal distress was indicated by the mean of all items.

be about two points higher for the BDI-II than for the BDI-I (Beck, Steer, Ball, & Ranieri, 1996), only patients with the BDI-II were included in analyses on self-reported symptoms, reducing the sample size to $N = 195$ for these analyses.

Data Analysis

We conducted our analyses in several steps. Because numerous approaches for scoring subscales of the BDI and HRSD have been proposed (Bagby et al., 2004; Vanheule, Desmet, Groenvynck, Rosseel, & Fontaine, 2008), we first conducted principal component analyses (PCA) separately on the two measures for depressive symptoms (BDI, HRSD). Unweighted subscales were computed based on factor loadings of the PCA. Second, we assessed correlations between dimensions of depressive experiences, interpersonal problems, and symptoms.

Third, we correlated the dimensions of depressive experience and depressive symptoms with interpersonal problems. The Structural Summary Method (SSM) was used to confirm, or “locate,” the interpersonal nature of these variables (Gurtman, 1992; Zimmermann & Wright, 2014). The SSM builds on the fact that the octant scales of an IPC measure correlate with each other following a sinusoidal wave form, and that the same can be expected for correlations with external measures. The pattern of correlations between the IIP eight octant scales and an external measure (e.g., DEQ self criticism) can be modeled by the following equation:

$$r_i = e + a * \cos(\theta_i - \delta) \quad (1)$$

where r_i is the predicted correlation with octant i , e is the elevation of the curve (i.e., the average correlation with the external measure across all octants, indicating the correlation with interpersonal distress), a is the amplitude of the curve (i.e., the distance between the average correlation and the peak correlation, indicating the degree of interpersonal specificity in the external measure), θ_i is the angle of octant i , and δ is the angular displacement of the peak of the curve from 0° . In the current study, the SSM parameters directly answer the question of whether depressive experiences (DEQ) and symptoms (BDI, HRSD) are associated with general interpersonal distress and/or a specific interpersonal style. To facilitate comparisons between constructs and samples, and to allow for inferential conclusions, we provide 95% bootstrap-based confidence intervals (CIs) for each of these parameters (Zimmermann & Wright, 2014). Finally, a goodness of fit index, R^2 , informs about the fit between the observed pattern of correlations with the predicted cosine curve using the following formula:

$$R^2 = SS_{Predicted} / SS_{Observed} \quad (2)$$

where SS is the sum of squared deviations of the correlational profile. R^2 should be higher than .70 to interpret the amplitude and angular displacement parameters in a reliable way (Wright, Pincus, Conroy, & Hilsenroth, 2009). We used IBM SPSS version 21 for PCA and correlations, and the R software for analyses of IPC structural summary scores (R Development Core Team, 2011).

Results

Means and standard deviations of depression severity, dimensions of depressive experiences, and interpersonal problems are depicted in Table 2. A PCA 2-factor solution of the BDI items explained 35.7% of the variance. Both factors closely resemble the factors described by Beck, Steer and Brown (1996) and were termed “cognitive” and “somatic-affective” symptoms. Two items (01: mood, and 10: crying) showed moderate loadings on both factors and were therefore not included for the computation of subscales. For the HRSD, neither a two- nor a three- or four-factor solution revealed interpretable, theoretically meaningful factors. Therefore, the HRSD total score was used for subsequent analyses.

The two samples differed on several measures. The U.S. outpatient sample was more severely depressed and described more interpersonal distress. Furthermore, the interpersonal themes

Table 2
 Depression Severity, Dimensions of Descriptive Experiences, and Interpersonal Problems

	Full sample	German inpatients	U.S. outpatients	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
HRSD (<i>N</i> = 278)	18.6 (4.86)	17.7 (5.86)	19.3 (3.71)	-2.75	201	.005	-0.32
BDI (<i>N</i> = 195)							
Total	30.8 (9.28)	26.2 (9.82)	32.1 (8.73)	-3.31	194	.001	-0.64
Cognitive	1.35 (0.57)	1.10 (0.52)	1.43 (0.57)	-3.62	193	<.001	-0.62
Somatic-affective	1.52 (0.52)	1.33 (0.59)	1.58 (0.48)	-3.05	193	.003	-0.48
DEQ (<i>N</i> = 272)							
Dependency	-0.33 (0.88)	0.06 (0.77)	-0.64 (0.85)	7.08	270	<.001	0.86
Self-criticism	0.74 (0.91)	0.36 (0.75)	1.03 (0.91)	-6.51	270	<.001	-0.81
IIP (<i>N</i> = 282)							
Dominance	-0.50 (0.73)	-0.71 (0.66)	-0.33 (0.74)	-4.44	275	<.001	-0.54
Affiliation	0.01 (0.75)	0.24 (0.73)	-0.20 (0.71)	5.04	274	<.001	0.61
Distress	0.83 (0.80)	0.67 (0.73)	0.97 (0.83)	-0.32	276.7	.001	-0.38
Octants							
PA domineering	0.20 (1.13)	-0.31 (0.90)	0.62 (1.13)	-7.62	275.2	<.001	-0.91
BC vindictive	0.52 (1.13)	0.09 (1.00)	0.89 (1.10)	-6.33	276	<.001	-0.77
DE cold	0.83 (1.20)	0.51 (1.13)	1.11 (1.19)	-4.32	276	<.001	-0.52
FG socially avoidant	1.27 (1.29)	1.04 (1.17)	1.48 (1.35)	-2.88	277	<.001	-0.35
HI nonassertive	1.28 (1.21)	1.32 (1.16)	1.25 (1.25)	0.46	277	<.001	0.06
JK exploitable	1.03 (1.21)	1.13 (1.12)	0.95 (1.27)	1.19	277	<.001	0.15
LM overly nurturant	1.03 (1.21)	1.19 (1.28)	0.89 (1.14)	2.06	275	<.001	0.25
NO intrusive	0.49 (1.14)	0.39 (1.06)	0.57 (1.20)	-1.37	276	.173	-0.17

Note. *M* = mean; *SD* = standard deviation; *df* = degree of freedom; HRSD = Hamilton Rating Scale for Depression; BDI = Beck Depression Inventory; DEQ = Depressive Experience Questionnaire; IIP = Inventory of Interpersonal Problems. Prior to analyses, IIP scales were standardized on the respective national norm.

differed significantly between the subsamples. An analysis of IIP SSM parameters comparing both subsamples showed that U.S. outpatients' predominant interpersonal theme was characterized by greater hostility and dominance, while German inpatients described a greater tendency to have problem with being exploited, $e = .13$, 95% CI [.06, .20], $a = .25$, 95% CI [.18, .32], $\delta = 137.6$, 95% CI [122.3, 152.8], $R^2 = .90$.² In addition, the U.S. outpatient sample reported higher self-criticism and German inpatients described higher dependency on the DEQ.

Associations With Depression Severity

All symptom measures were significantly associated with interpersonal distress (Table 3). When reproducing the pattern of correlations with the SSM (Table 4), only BDI cognitive symptoms were associated with a (somewhat) specific interpersonal style, $a = .12$, 95% CI [.05, .21], broadly characterized by low affiliation, $\delta = 167.3$, 95% CI [120.5, 214.3]. In other words, HRSD and BDI somatic-affective symptoms were not related to a specific interpersonal theme.

Analyses failed to demonstrate a significant association between dependency and HRSD as well as BDI total score. However, dependency did show a low but significant correlation with the BDI cognitive subscale. In contrast, self-criticism correlated significantly with both the HRSD and the BDI total score, but the magnitude of the association with HRSD was small. In addition,

²Reported here are IIP scores as standardized on the national norms. If IIP raw scores are compared, German inpatients have higher levels of interpersonal distress ($t(276) = 4.37$, $p < .001$). The pattern of difference in dominance and affiliation scores stays similar to standardized scores with significantly higher affiliation and more submissiveness for German inpatients.

Table 3
Correlations Between Depressive Experiences, Interpersonal Problems, and Depressive Symptoms

	DEQ (<i>N</i> = 273)			BDI (<i>N</i> = 195)		
	Dependency	Self-criticism	HRSD (<i>N</i> = 276)	Total	Cognitive	Somatic-affective
DEQ						
Dependency	–	–.023	.021	.111	.156*	.035
Self-criticism	–.023	–	.133*	.339**	.567**	.095
IIP						
Distress	.369**	.403**	.232**	.321**	.355**	.212**
Dominance	–.282**	.097	–.041	.007	.021	–.002
Affiliation	.359**	–.303**	–.080	–.135	–.186**	–.029
Octant scales						
Domineering	–.042	.378**	.098	.182*	.192**	.128
Vindictive	.007	.445**	.221**	.302**	.385**	.151*
Cold	.034	.444**	.187**	.296**	.330**	.169*
Socially avoidant	.228**	.376**	.216**	.280**	.320**	.157*
Nonassertive	.382**	.184**	.156**	.146*	.158*	.112
Exploitable	.464**	.093	.118	.150*	.150*	.112
Overly nurturant	.534**	.075	.146*	.140	.112	.152*
Intrusive	.356**	.175**	.102	.175*	.190**	.125

Note. DEQ = Depressive Experience Questionnaire; HRSD = Hamilton Rating Scale for Depression; BDI = Beck Depression Inventory; IIP = Inventory of Interpersonal Problems. Moderate and large correlations (> .30) are printed in bold. Prior to analyses, IIP scales were standardized on the respective national norm.

* *p* < .05. ** *p* > .01.

Table 4
Structural Summary Method Parameters of Self-Criticism, Dependency, and Depressive Symptoms

	<i>e</i>	<i>a</i>	δ	<i>R</i> ²
DEQ self-criticism				
Raw correlations (<i>n</i> = 266)	.27	.20	158.3	.99
	[.20, .34]	[.14, .28]	[138.6, 178.8]	
Partial correlations (<i>n</i> = 193)	.17	.18	156.4	.94
	[.07, .26]	[.10, .28]	[130.7, 189.7]	
DEQ dependency				
Raw correlations (<i>n</i> = 266)	.24	.28	324.5	.91
	[.16, .32]	[.21, .37]	[311.1, 338.4]	
Partial correlations (<i>n</i> = 193)	.21	.31	325.5	.95
	[.13, .30]	[.22, .40]	[311.2, 340.8]	
BDI cognitive symptoms (<i>n</i> = 193)				
	.23	.12	167.3	.83
	[.13, .32]	[.05, .21]	[120.5, 214.3]	
BDI somatic symptoms (<i>n</i> = 193)				
	.14			.35
	[.04, .23]			
HRSD observer ratings (<i>n</i> = 270)				
	.15			.64
	[.07, .24]			

Note. *e* = Elevation; *a* = Amplitude; δ = Angular displacement; *R*² = Goodness of fit. All analyses were based on observed correlations shown in Table 3. Partial correlations refer to analyses in which BDI and HRSD scales were statistically controlled. 95% confidence intervals are based on the percentile bootstrap method. When *R*² was below .7, we did not compute *a* and δ as they cannot be reliably interpreted.

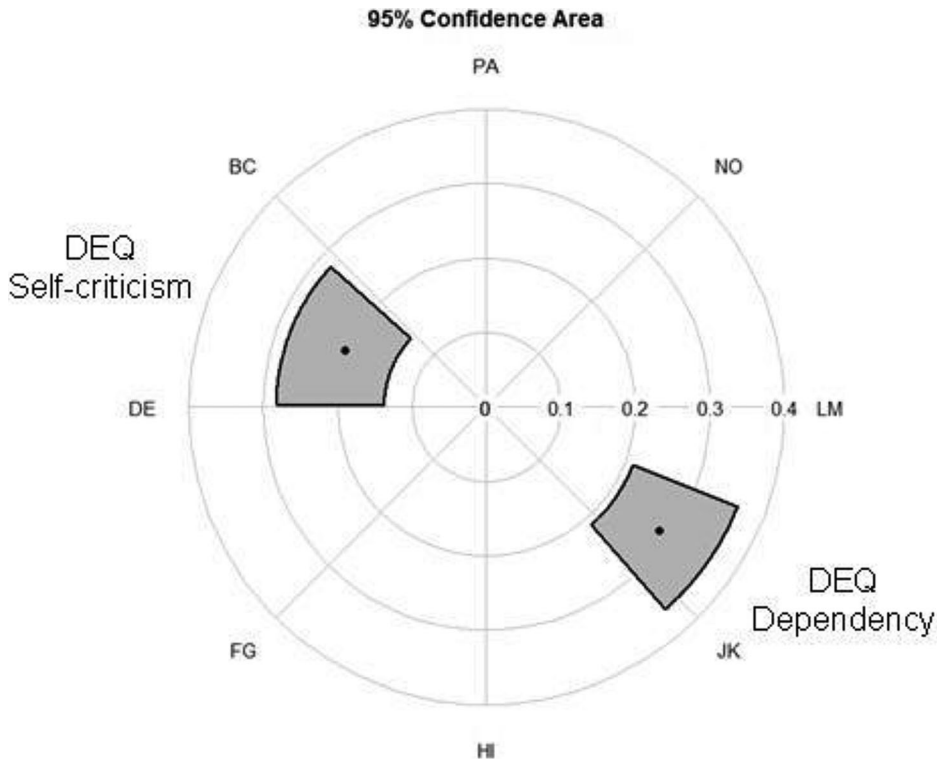


Figure 1. Location of DEQ dependency and self-criticism in the interpersonal circumplex.

correlations between self-criticism and BDI subscales showed that the association with the BDI is mainly due to cognitive symptoms of depression.

Dimensions of Depressive Experience and Interpersonal Problems

Associations between self-criticism and IIP octant scales were generally positive but varied considerably, ranging from $r = .08$ for overly nurturant (LM) to $r = .45$ for vindictive (BC) problems (Table 3). The highest correlations for self-criticism were observed in the dominant/cold quadrant of the IIP, and dependency correlated high with octants in the friendly/submissive quadrant. When reproducing this pattern using the SSM (Table 4), the predicted correlational pattern had an excellent fit to the observed data, $R^2 = .99$. Thus, the SSM parameters provide a useful summary of the observed correlations. Table 4 presents the SSM parameters and their 95% CIs. The curve of self-criticism was significantly elevated across octants, $e = .27$, 95% CI [.20, .34], and had a substantial amplitude, $a = 20$, 95% CI [.14, .28], peaking between the cold (DE) and vindictive (BC) octant, $\delta = 158.3$, 95% CI [138.6, 178.8].

Similarly, the curve of dependency was significantly elevated, $e = .24$, 95% CI [.16, .32], and had an ever greater amplitude, $a = 28$, 95% CI [.21, .37], but peaked at the exploitable (JK) octant, $\delta = 324.5$, 95% CI [311.1, 338.4]. Figure 1 depicts the interpersonal locations of these variables graphically. The SSM analyses were also reconducted with partial correlations corrected for the influence of depressive symptoms (BDI, HRSD). However, the SSM parameters did not change substantially, and the CIs indicate that the correlations were not different whether or not we corrected for depression severity. Similarly, the correlations did not differ significantly between the two patient groups.

Discussion

This study examined interrelations between dimensions of depressive experience, interpersonal problems and depressive symptoms in a heterogeneous sample of patients with MDD. Dependency and self-criticism correlated with interpersonal distress, further confirming the interpersonal nature of the dimensions of depressive experience. Importantly, the observed associations were independent of depression severity.

As expected, patients with an elevated need for relatedness (i.e., dependency) described being too friendly and not assertive enough as their predominant interpersonal problems. Patients with high self-criticism experienced interpersonal problems with being self-directed, cold, and avoiding social interactions. These findings parallel earlier studies on the association between dimensions of depressive experience and IPC measures in college samples (e.g., Hmel & Pincus, 2002). Dependency can be framed as an orientation toward others, and self-criticism involves turning away from other people (withdrawal). Contrary to the assumption by Luyten and Blatt (2013), self-criticism did not correlate with dominance. The current study extends previous findings by showing that the observed associations are not only similar across two groups from different cultural backgrounds, but also continue to be true after controlling for depressive symptoms. This indicates that the correlations between DEQ and IIP are not an epiphenomenon of symptomatic impairment.

Associations between interpersonal variables and depressive symptoms were low to moderate. This finding underscores the conceptual differences between interpersonal traits (e.g., the interpersonal style of behaving overly friendly toward others) and states of depressive symptoms. This is in line with other recent studies showing that clinical groups defined by interpersonal traits in the IPC tradition differ very little in depression severity (Cain et al., 2012). However, the findings are somewhat different for self-criticism. Patients describing themselves as self-critical were more severely depressed, especially with regard to cognitive symptoms in the BDI. The high correlation between self-criticism and depression severity is consistent with findings from earlier studies (e.g., Luyten et al., 2007).

We consider two potential reasons for this finding. The first is related to the fact that self-critical depression has previously been described as particularly severe. For example, clinical literature associates self-criticism with an increased risk for serious, lethal suicide attempts. According to this line of thought, self-critical and perfectionist patients primarily experience diminished self-worth during a depressive episode, which is accompanied by intense feelings of guilt, shame, and worthlessness (e.g., Campos, Besser, & Blatt, 2013). These intense, negative, inner experiences may lead to more severe overall symptoms and have a negative impact on treatment outcome (Blatt, 1995).

The second potential explanation is that current measures for depression severity weigh cognitive symptoms more heavily than emotional symptoms (e.g., sadness, feelings of loneliness) and interpersonal distress. Cognitive symptoms of depression (e.g., guilt, low self-esteem) overlap with the self-criticism construct, which is reflected by its high correlation with the cognitive subscale of the BDI. The overlap can be demonstrated on an item basis: DEQ items 13 (“considerable difference between how I am and how I would like to be”), 17 (“not satisfied with what I have”), 35 (“never feel secure in close relationships”), and 7 (“often feel guilty”) receive the highest weight for self-criticism. Three out of the four items reflect typical cognitive symptoms in depression and correspond to BDI items 7 (self-dislike), 8 (self-criticalness), and 5 (guilty feelings).

In contrast, somatic-affective BDI symptoms and the HRSD with its greater emphasis on neurovegetative symptoms correlated only marginally with self-criticism. Even though theory describes a need for self-definition as enduring personality trait (Luyten & Blatt, 2013), it is unclear whether or not the DEQ scale self-criticism is able to capture this personality trait or should rather be viewed as a measure of a specific cognitive error in depression. In any case, the high correlation between BDI cognitive and DEQ self-criticism appears to be to some degree an artifact of shared item content.

The current study used two patient groups from different clinical settings and nationalities, which differed in relevant aspects of both interpersonal variables and depression. However, most

patients reported interpersonal problems related to submissiveness. This finding is in line with previous work indicating submissiveness as a major interpersonal characteristic for depressive patients (Dinger, Zilcha-Mano, McCarthy, Barrett, & Barber, 2013). The U.S. outpatient sample was more severely depressed than the German inpatients, which is likely because of the minimum HRSD cutoff required as an entry criterion for the RCT.

In addition, German inpatients were examined after admission, while U.S. outpatients were examined at intake. It is reasonable to expect a significant symptom relief between initial consultation and start of treatment because of treatment expectations. In addition, both samples differed on interpersonal dimensions, with U.S. outpatients describing significantly more self-criticism and German inpatients reporting more dependency. These differences might partially be due to intercultural differences. As representative studies in nonclinical populations show that Germans tend to report more interpersonal problems in the IIP compared to Americans (Brähler et al., 1999; Horowitz, Alden, et al., 2000), intercultural differences might influence DEQ responses as well.

However, in addition to cultural differences, the treatment setting is likely to be another influencing factor. Whereas severely depressed patients in most U.S. states have few options besides outpatient psychological or pharmacological therapy, the German health care system allows for inpatient psychotherapy with such patients. With a variety of treatment options, personality factors are likely to influence recommendations by health care providers and treatment preferences of patients. To disentangle the intercultural influence from a selection bias, nonclinical as well as different treatment groups within each country are needed.

Limitations

Limitations of the current study include the cross-sectional design, which restricts causal inferences regarding the associations between the observed variables. In addition, the lack of a nonclinical control group limits the range of the observed variables. Strengths of the study include the assessment of depressive symptoms from two perspectives and the generally large sample. In addition, the inclusion of two patient groups from different nationalities and treatment settings increases the generalizability of the findings.

Conclusion

What future directions for depression research emerge from this study? One important aspect may be the trait–state continuum. Although interpersonal styles are considered relatively stable traits, depression severity is assumed to vary with psychological health. More longitudinal studies are needed that assess the temporal stability of symptoms, interpersonal problems, and personality characteristics (Grosse Holtforth, Lutz, & Grawe, 2006). These studies also bear the potential of disentangling mediation effects between interpersonal dispositions, current interpersonal problems, and depression. Because relatedness and self-definition are assumed to be fundamental personality dimensions, a link with the personality literature around the Big Five, especially neuroticism and agreeableness, also appears important. A better understanding of the causal relations between interpersonal personality variables at different levels and depression may lead to an adaptation of treatment approaches.

In addition, it is important to keep in mind that depression is not the only disorder that may emerge as a consequence of imbalanced relatedness and self-definition (Luyten & Blatt, 2013). Although future longitudinal studies on clinical and nonclinical participants are needed to further understand the mutual influences of interpersonal traits and different levels of symptom distress, the current study supports the interpersonal nature of the dimensions of depressive experience in patients with MDD.

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