

Interpersonal differentiation within depression diagnosis: Relating interpersonal subgroups to symptom load and the quality of the early therapeutic alliance

Martin Grosse Holtforth, David Altenstein, Tobias Krieger, Christoph Flückiger, Aidan G. C. Wright & Franz Caspar

To cite this article: Martin Grosse Holtforth, David Altenstein, Tobias Krieger, Christoph Flückiger, Aidan G. C. Wright & Franz Caspar (2014) Interpersonal differentiation within depression diagnosis: Relating interpersonal subgroups to symptom load and the quality of the early therapeutic alliance, *Psychotherapy Research*, 24:4, 429-441, DOI: [10.1080/10503307.2013.829253](https://doi.org/10.1080/10503307.2013.829253)

To link to this article: <http://dx.doi.org/10.1080/10503307.2013.829253>

 Published online: 13 Sep 2013.

 Submit your article to this journal [↗](#)

 Article views: 245

 View related articles [↗](#)

 View Crossmark data [↗](#)

 Citing articles: 2 View citing articles [↗](#)

Interpersonal differentiation within depression diagnosis: Relating interpersonal subgroups to symptom load and the quality of the early therapeutic alliance

MARTIN GROSSE HOLTFOORTH¹, DAVID ALTENSTEIN¹, TOBIAS KRIEGER¹,
CHRISTOPH FLÜCKIGER¹, AIDAN G. C. WRIGHT², & FRANZ CASPAR³

¹Department of Psychology, University of Zurich, Zurich, Switzerland; ²Department of Psychology, University of Pittsburgh, Pittsburgh, PA, USA & ³Department of Clinical Psychology and Psychotherapy, University of Bern, Bern, Switzerland

(Received 8 February 2013; revised 11 July 2013; accepted 22 July 2013)

Abstract

We examined interpersonal problems in psychotherapy outpatients with a principal diagnosis of a depressive disorder in routine care ($n=361$). These patients were compared to a normative non-clinical sample and to outpatients with other principal diagnoses ($n=959$). Furthermore, these patients were statistically assigned to interpersonally defined subgroups that were compared regarding symptoms and the quality of the early alliance. The sample of depressive patients reported higher levels of interpersonal problems than the normative sample and the sample of outpatients without a principal diagnosis of depression. Latent Class Analysis identified eight distinct interpersonal subgroups, which differed regarding self-reported symptom load and the quality of the early alliance. However, therapists' alliance ratings did not differentiate between the groups. This interpersonal differentiation within the group of patients with a principal diagnosis of depression may add to a personalized psychotherapy based on interpersonal profiles.

Keywords: depression; alliance; interpersonal problems

The ability to interact with different people in a wide range of social situations is a major component of psychological health, and problems with social interactions are associated with psychopathology (Horowitz, 2004). Empirical research convincingly supports the relationship between interpersonal problems and psychological symptoms (Hardy, Tracey, Glidden-Tracey, Hess, & Rohlfling, 2011; Puschner, Kraft, & Bauer, 2004; Renner et al., 2012; Salzer et al., 2010; Stangier, Esser, Leber, Risch, & Heidenreich, 2006), and psychotherapy patients regularly report persistent difficulties in social relationships (Grosse Holtforth & Grawe, 2002; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988). More specifically, interpersonal problems contribute to the etiology and maintenance of major depression (Joiner & Timmons, 2009), and research indicates that patients with depression exhibit greater distress from interpersonal problems than normative samples (Barrett & Barber, 2007). A reasonable assumption suggests that interactional problems in real life generalize to interactions during psychotherapy and affect the therapeutic alliance (Renner et al., 2012).

Interpersonal theory assumes that most interpersonal behaviors can be described by a combination of the two independent dimensions of *agency* and *communion*, thereby creating a two-dimensional space referred to as the *Interpersonal Circumplex* (IPC), which can be subdivided into eight equally sized sub-spaces (*octants*) (Alden, Wiggins, & Pincus, 1990; Leary, 1957; Wiggins, 1979, 1991) (see Figure 1). In an empirical context, agency and communion are frequently explicated by the terms *dominance* and *affiliation*, respectively.

The theoretical expectations of several authors indicate that the interpersonal characteristics of depressed people most frequently lie in the submissive range (Constantino et al., 2012; Coyne, 1976; Hammen, 2006; Joiner, 2000; McCullough, 2003). Correspondingly, analyses using either self-reports (Barrett & Barber, 2007; Vittengl, Clark, & Jarrett, 2003) or reports by significant others (Grosse Holtforth, Altenstein, Ansell, Schneider, & Caspar, 2011) appear to support the finding that the interpersonal characteristics and problems of depressed people generally include various types of

submissiveness, ranging from unfriendly-submissive to friendly-submissive. However, the average interpersonal presentation of a group of patients with depression does not sufficiently describe individual patient problems. Consequently, Grosse Holtforth et al. (2011) and Cain et al. (2012) generated a more detailed empirical sub-classification of patients with a depression based on their interpersonal characteristics. Whereas Grosse Holtforth et al. empirically arrived at four interpersonal clusters based on interpersonal ratings of significant others (friendly-dominant, friendly-submissive, hostile-submissive, and hostile-dominant), Cain et al. identified six distinct interpersonal groups of patients with depression based on personality self-ratings (extraverted, dominant, arrogant, cold, submissive, and unassuming). Generally, these empirically generated sub-groups comprise most of the interpersonal space. However, the largest number of patients with depression is grouped in the submissive clusters.

The association between interpersonal problems and depression might be explained by negative impacts of interpersonal problems on the satisfaction of goals and motives (Grosse Holtforth & Michalak, 2012). In his self-regulation model of depression Strauman (2002) proposed that individuals who are unable to pursue their (promotion) goals effectively are at risk of mood disorder because of their chronic inability to satisfy these goals. In this model, depression results from and maintains disruption of the mechanisms of incentive motivation (Dickson & MacLeod, 2004; Strauman et al., 2006). Supporting the proposed association of depression with goal satisfaction Stangier and colleagues (Stangier, Uknow, Schermelleh-Engel, Grabe, & Lauterbach, 2007) found that inpatients suffering from a depression demonstrated lower scores for perceived goal realization as compared with non-clinical individuals. In another study with psychotherapy outpatients, motive-congruent goal progress was related to depressive symptoms (Pueschel, Schulte, & Michalak, 2011). Furthermore, in a study with three clinical and nonclinical samples from two countries cold and/or submissive interpersonal problems were consistently associated with failure to satisfy important approach motives (i.e., strivings for intimacy, affiliation, and altruism; Grosse Holtforth, Pincus, Grawe, & Mauler, 2007). Therefore, it is reasonable to assume that particularly patients with cold and/or submissive interpersonal problems will also experience problems in satisfying their goals and motives and consequently show the highest levels of depressive and general symptoms.

The interpersonal problems of psychotherapy patients can also be expected to be associated with differential relationships with their therapists. When

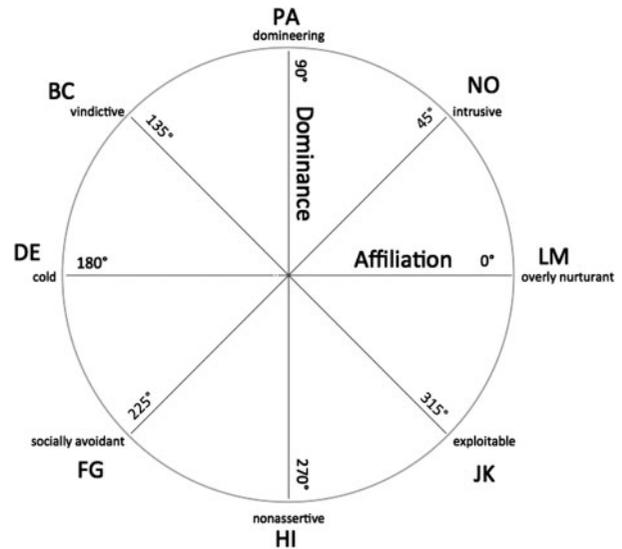


Figure 1. Interpersonal circumplex. An example of the eight octants found in the Interpersonal Circumplex (IPC) adapted from Leary (1957). Octants are labeled with the alphabetical notation originally provided by Leary (1957). This figure illustrates the two-letter octant-labeling scheme that has been used by convention to refer to the specific octants across measures with ease (e.g., PA, BC, DE, etc.).

aligned with the defined patient and therapist roles, friendly-submissive patient behaviors can complement friendly-dominant therapist behavior and foster a good therapeutic alliance, whereas hostile-dominant patient behaviors are likely to be perceived by the therapist as mismatching the patient role (Kiesler, 1983; Kiesler & Watkins, 1989; Renner et al., 2012; Tracey, 1993). Accordingly in most studies, friendly-submissive patient problems reported at intake related to a better therapeutic alliance (Constantino & Smith-Hansen, 2008; Muran, Segal, Samstag, & Crawford, 1994; Puschner, Bauer, Horowitz, & Kordy, 2005), whereas hostile-dominant problems predicted poorer relationship ratings (Connolly Gibbons et al., 2009; Muran et al., 1994; Puschner et al., 2005). More generally, high patient friendliness indicated a good therapeutic alliance and patient coldness a worse relationship, whereas too dominant interpersonal problems showed heterogeneous or even no association with the therapeutic alliance in these studies (e.g., Dinger, Strack, Leichsenring, & Schauenburg, 2007; Hersoug, Monsen, Havik, & Høglend, 2002).

The present study aimed to further characterize the interpersonal problems of patients suffering from a depression and relate these problems to general and depressive symptoms as well as the quality of the early therapeutic alliance. Beyond replicating the findings of previous analyses, we intended to identify subgroups of patients with depression as defined by their interpersonal characteristics, and to compare

symptom load and the quality of the early alliance from the patients' and therapists' perspective between these subgroups. We tested the following hypotheses: (1) Patients with depression report higher levels of interpersonal distress and less dominant interpersonal problems compared to a normative German sample and psychotherapy patients without the principal diagnosis of a depressive disorder. On average, their self-reported interpersonal problems were expected to be located in the submissive range of the interpersonal space. (2) Distinct subgroups of patients with depression can be identified all across the interpersonal circle, i.e., displaying friendly, hostile, dominant, as well as submissive interpersonal problems. (3) The interpersonal subgroups report different average levels of symptom load. Because of likely impacts of unfriendly and unfriendly-submissive interpersonal behaviors, we expect patients with unfriendly and unfriendly-submissive interpersonal problems to report the highest levels of symptoms. (4) The interpersonal subgroups differ in the quality of the early therapeutic alliance: Whereas the alliance is expected to be better for patients with friendly-submissive characteristics, it is hypothesized to be worse for hostile-dominant patients.

Materials and Methods

Patients, Setting, and Diagnoses

This study analyzed data from 1320 psychotherapy outpatients admitted between 1991 and 2010 at a German-speaking Swiss university clinic that serves the community. All patients in this study gave informed consent for the use of their data for research purposes, and the protocol of this study was in accordance with the guidelines of the Declaration of Helsinki. The data of the non-clinical individuals were based on a representative sample of 3047 individuals from the German IIP manual (Horowitz, Strauss, & Kordy, 2000).

According to the information provided by the university clinic, almost all patients were Caucasian. However, exact numbers were not available for ethnicity in the current sample. The standardized diagnoses were assessed with the German Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; German version: Wittchen, Wunderlich, Gruschwitz, & Zaudig, 1997). The SCID-I has generally demonstrated a good reliability (e.g., Lobbstaël, Leurgans, & Arntz, 2011). Three hundred and sixty-one of the 1320 patients (27.3%) had a primary diagnosis of a depressive disorder. Other primary diagnoses in the full sample were: 34 (2.6%) Obsessive-Compulsive Disorder; 165 (12.5%) Social

Phobia; 95 (7.2%) Panic Disorder; 32 (2.5%) Specific Phobia; 36 (2.7%) other Anxiety Disorders; 115 (8.7%) Adjustment Disorder; 47 (3.6%) Bulimia; 40 (3.0%) Somatization/Somatoform Pain Disorder; 33 (2.5%) Posttraumatic Stress Disorder; 20 (1.5%) disorders related to sexuality; 128 (9.7%) were assigned to a miscellaneous category of psychological problems, and 181 (13.7%) were explicitly reported to have no axis I disorder. Of the patients with primary diagnoses other than depression, 149 (11.3%) had a secondary comorbid diagnosis of depression. These patients were not grouped with the primarily depressed patients. The group of patients with a primary diagnosis of a depressive disorder was composed of patients with the following sub-diagnoses: 127 (35.2%) Major Depressive Disorder (MDD), single episode; 193 (53.5%) MDD, recurrent; and 41 (11.4%) Dysthymia. Sixty percent (60.1%) of the patients with depression were women, and the mean age was 37.8 years ($SD = 12.1$; 17–75). Of the remaining 959 patients in the total sample, 438 (55.7%) were women, and the mean age was 35.4 years ($SD = 11.7$; 14–80). Personality disorders were not routinely assessed in the clinic.

Therapists, Treatment, and Procedures

The therapists were at the masters-level within their 4-year postgraduate course or were licensed staff therapists. The 166 therapists in the current study had received extensive training in an integrative treatment (see below), and all therapists received ongoing supervision and/or consultation from experienced colleagues. The mean therapist caseload was 2.2 patients ($SD = 2.2$; range 1 to 16).

Integrative treatment instructs therapists to differentially combine interventions from cognitive behavioral therapy, interpersonal, process-experiential, and systemic therapy within a theoretically integrative framework (General Psychotherapy; Grawe, 2004; Grosse Holtforth et al., 2011). The treatment integrates various empirically supported interventions corresponding to a small number of change mechanisms. These change mechanisms are: (a) Resource activation, (b) problem actuation, (c), motivational clarification, and (d) mastery/coping. The therapist flexibly combines empirically supported interventions that correspond to these mechanisms of change based on an individualized case formulation and treatment plan (Caspar & Grosse Holtforth, 2010).

After an intake interview with a staff psychotherapist, the masters-level psychotherapy trainees administered standardized diagnostic interviews, and the clients completed a battery of standardized

questionnaires. The therapists were assigned based on availability. After each session, the patients completed a brief session-report questionnaire.

Measures

We used the following measures for the assessment of interpersonal problems, symptoms and the therapeutic alliance. General symptoms were assessed by the General Symptom Index (GSI) of the Brief Symptom Inventory (BSI). Additionally, depressive symptoms were assessed by the Beck Depression Inventory (BDI). However, since not all patients completed the BDI as part of the intake assessment package, we additionally analyze the depression subscale of the Brief Symptom Inventory (BSI-D) to back up the results regarding depressive symptoms. Subsequently, we describe all measures in more detail.

Inventory of Interpersonal Problems (IIP).

The Inventory of Interpersonal Problems – Circumplex Scales (IIP-C; Alden et al., 1990; Horowitz, Alden, Wiggins, & Pincus, 2000) was utilized to assess interpersonal problems. The 64-item IIP-C was designed to have circumplex properties, and IIP-C-items are assigned to eight octant subscales. The IIP-D (Horowitz, Strauss, & Kordy, 2000) utilized in this study is the German translation of the IIP-C, which was normed with a representative sample of 3047 Germans (Horowitz, Strauss, & Kordy, 2000). Sample IIP items for distressing interpersonal behaviors are: “It is hard for me . . . to say ‘no’ to other people” and “I fight with other people too much.” The IIP-octant subscale scores each contain a general interpersonal distress factor and two content dimensions of dominance and affiliation (Tracey, Rounds, & Gurtman, 1996); this three-factor structure has been empirically confirmed (Grosse Holtforth et al., 2007; Renner et al., 2012; Vittengl et al., 2003). Accordingly, factor scores for IIP interpersonal distress, dominance and affiliation can be computed from the eight subscale scores. We used the IIP-octant scores, as well as the three summary scores in this study. The Cronbach alphas for the octant scales in the current study ranged from .70 to .86, and the total score demonstrated an alpha coefficient of .93.

Brief Symptom Inventory (BSI). The BSI (Derogatis, 1993; German: Franke, 2000) measures the subjective impairment by mental and somatic symptoms. The 53 items rated on a 5-point Likert scale (“not at all” to “very strong”) are summarized in nine subscales and three global scores. This study utilized the depression subscale (BSI-D) and the

global symptom index (GSI; average of all scales). The reliabilities of the German BSI subscales have been reported as $\alpha = .63-.85$, and one week test-retest reliability reported $r_{tt} = .73-.92$ (Franke, 2000). In the present study, Cronbach’s α was .86 for the BSI-D and .95 for the GSI.

Beck Depression Inventory (BDI). The BDI (Beck & Steer, 1987; German: Hautzinger, Bailer, Worall, & Keller, 1995) assesses the severity of depressive symptoms with 21 self-reported items. The respondents rate each item on a Likert scale ranging from 0 to 3 (“not present” to “severe”). The total score is computed as the sum of all items (0–63). The internal consistency of the BDI total score has been reported as $\alpha = .95$, and it was $\alpha = .87$ in the current sample (Steinmeyer, 1993).

Bern Post Session Report (BPSR-P/T). The BPSR (Flückiger, Regli, Zwahlen, Hostettler, & Caspar, 2010) was designed to analyze the processes of change as reported by the patients and their therapists directly after each session. The global alliance subscale of the BPSR patient and therapist forms assessed the quality of the therapeutic alliance. Three items (e.g., “The therapist/patient and I understand one another”) were answered on 7-point Likert scales (“not at all” to “completely”). The internal consistency in a sample of the same clinic that largely overlapped with the current sample was reported for the patient form as $\alpha = .83$ and for the therapist form as $\alpha = .82$ (Flückiger et al., 2010). To assess the quality of the early therapeutic alliance, we aggregated the scores of the global alliance scale across the first five sessions, for the patient’s as well as for the therapist’s perspective.

Statistical Analyses

To statistically test for significant differences in the overall distress caused by interpersonal problems (*elevation*), we conducted a one-sample *t*-test testing IIP *z*-scores of the patients with a depression against 0, which equals the mean of the general population as presented in the German IIP manual (Horowitz, Strauss, & Kordy, 2000). Further, we tested differences between samples using analyses of variances (ANOVA). However, when preliminary analyses revealed differences in specific covariates (e.g., age, gender, etc.), we used analyses of covariance (ANCOVA) to compare groups controlling for these covariates. All post-hoc group comparisons were Bonferroni-corrected. To identify subgroups of patients with depression based on their self-reported interpersonal problems, we utilized Latent Class Analysis (LCA) of Mplus 6.11 (Muthén & Muthén,

Table I. Descriptives and correlations of measures for interpersonal problems and symptomatology

	1. IIP total	2. BDI	3. BSI-D	4. GSI	<i>M</i>	<i>SD</i>
1. IIP total (<i>n</i>)	–	.44** (511)	.50** (951)	.55** (952)	1.47	.50
2. BDI (<i>n</i>)	.39** (292)	–	.71** (507)	.73** (508)	14.63	8.22
3. BSI-D (<i>n</i>)	.40** (359)	.68** (292)	–	.83** (953)	1.26	.91
4. GSI (<i>n</i>)	.51** (359)	.68** (292)	.81** (360)	–	1.04	.62
<i>M</i>	1.67	21.48	1.94	1.36		
<i>SD</i>	.45	9.07	.92	.62		

Note. All correlations are Pearson's r ; correlations and descriptives below the diagonal refer to the depressive sample, correlations and descriptives above the diagonal refer to patients with other diagnoses; IIP total = total score of the Inventory of Interpersonal Problems; BDI = Beck Depression Inventory; BSI-D = Brief Symptom Inventory – Depression scale; GSI = General symptom index of the Brief Symptom Inventory.

** $p < .001$.

2010). LCA is a widely used statistical method to identify a set of discrete, mutually exclusive latent classes of individuals who are similar in their responses to measured variables (Nylund, Asparouhov, & Muthén, 2007). We entered all eight IIP subscales into the LCA and model selection was based on the Bayesian Information Criterion (BIC; Schwarz, 1978), with the lowest value indicating the best-fitting model.

Results

Preliminary Analysis

Table I gives an overview of the descriptives and the intercorrelations of the intake measures.

Comparison of the Different Samples Regarding Interpersonal Problems (H1)

In order to interpersonally characterize the patients with depression, we compared their IIP scores to those of a normative sample from the general population on the one hand (by one-sample t -tests using the normative data provided by the IIP manual), and to the IIP scores of a clinical outpatient sample with primary diagnoses other than depression (by ANCOVA) on the other hand. Patients with a primary diagnosis of depression scored significantly higher regarding the IIP total score (mean of all octant scales) than the respondents in the normative sample, $t(359) = 15.80$, $p < .001$, $d = .68$.¹ Before testing the differences in comparison to patients with other diagnoses, we first checked for potential confounders, i.e., age, gender, and comorbid disorders. The group of patients with depression differed from patients with other principal diagnoses in two variables: The group of patients with depression was significantly older ($M = 38.0$, $SD = 12.1$ vs.

$M = 35.4$, $SD = 11.7$ years), $F(1,1058) = 10.42$, $p = .001$, partial $\eta^2 = .010$, and contained proportionally fewer patients with a comorbid social phobia (8.9% vs. 20.2%), $X^2(1) = 23.87$, $p < .001$. To test the differences in the IIP total score between the patients with depression and patients with other diagnoses, we conducted an ANCOVA with age and diagnosis of social phobia as covariates. The result revealed that patients with depression as the principal diagnosis reported more IIP interpersonal distress than patients with other diagnoses, $F(1,1053) = 42.91$, $p < .001$, partial $\eta^2 = .039$. Regarding the dimensions of dominance and affiliation, the patients with depression scored lower on dominance compared to respondents in the general population (i.e., reported to be more submissive), $t(359) = -16.28$, $p < .001$, $d = .60$, and other patients, $F(1,1053) = 16.61$, $p < .001$, partial $\eta^2 = .016$. In an additional exploratory analysis, the patients with depression scored higher on affiliation than respondents of the general population (i.e., reported to be more friendly; $t(359) = 2.78$, $p = .006$, $d = .11$), but they scored similarly affiliative as other patients, $F(1,1054) = .01$, $p < .926$, partial $\eta^2 < .001$. To locate the whole sample of patients with depression within the interpersonal space, we computed the average angular displacement with the structural summary method (Wright, Pincus, Conroy, & Hilsenroth, 2009; for a prototypical example, see Figure 2). As a group, the patients with depression described themselves as being too submissive (average angle = 280.01°).

In summary, as hypothesized, patients with depression displayed stronger interpersonal problems (higher IIP total score) compared to the normative sample and psychotherapy patients with principal diagnoses other than depression. On average, the self-reported interpersonal problems of patients with

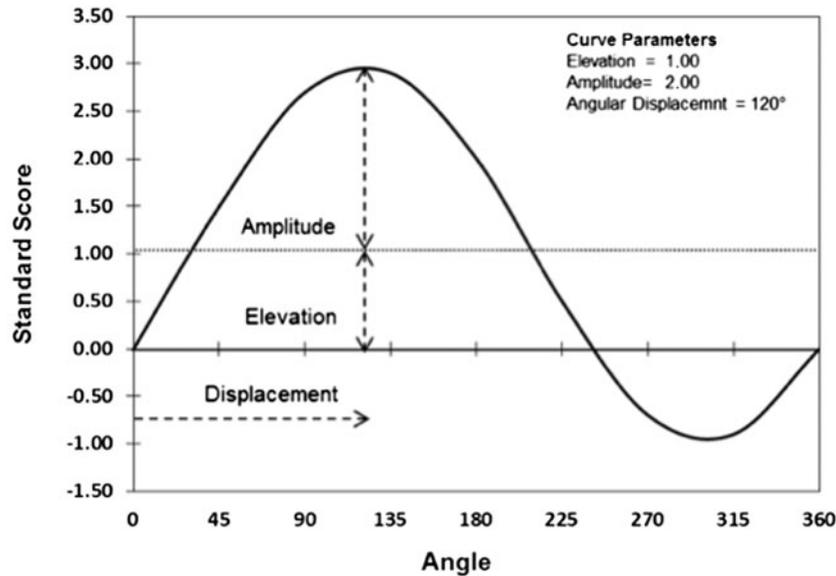


Figure 2. An example of a circumplex structural summary. X axis = circumplex angle in degrees; Y axis = standard (z) score on IIP octant. Displacement = the person's interpersonal "central tendency," signifying the individual's "typology" (Leary, 1957). Amplitude = measure of profile differentiation. It is viewed as a measure of the profile's "structured patterning," or degree of differentiation, indicating the extent to which the predominant trend "stands out." An amplitude value of 0 indicates a flat (i.e., undifferentiated) profile; high amplitude indicates a profile with a clear interpersonal peak (and trough). Elevation = the mean level of the profile, i.e., the general level of interpersonal distress (e.g., Ansell & Pincus, 2004).

depression were located in the submissive range of the interpersonal space. For the exact location of the depressed group in the IPC, see the first box of Figure 3.

Subgroups of Patients with Depression Based on Their Interpersonal Problems (H2)

We used LCA to estimate 1- to 11-class solutions to identify subgroups of patients with depression. The model selection yielded a minimal BIC at the 8-class solution. The value for R^2 indicates how well the profile fits the hypothesized cosine curve (Wright et al., 2009; for a prototypical example, see Figure 2). Seven of the eight classes had prototypical mean profiles (R^2 range = .82–.97), and the remaining class had marginal prototypicality ($R^2 = .75$). Entropy indicates how well the individuals are classified. It is measured on a 0 to 1 scale with a value of 1 indicating that the individuals are perfectly classified into latent classes. In our study, we found an acceptable level of entropy ($E = .85$), indicating low uncertainty about class membership (Clark & Muthén, 2009).

Two pairs of the resulting profiles overlapped in interpersonal problem theme but differed in the extent of problems (Classes 4 and 5, as well as 6 and 8). The solution displayed in Figure 3 illustrates the structural summary of the eight classes and the total sample of patients with depression. Our utilization of the group structural summary method (Wright et al., 2009) determined that all of the resulting interperso-

nal subgroups of patients with depression exhibited highly prototypical circumplex profiles ($.75 \leq R^2 \leq .95$; $.37 \leq \text{amplitude} \leq 1.09$). The subgroups with overlapping angular confidence intervals differed in amplitude and/or elevation, demonstrating that individuals within each of these groups have distinct interpersonal problem profiles. We labeled the classes of patients with depression in circular order of their mean displacement angle as (1) *broadly burdened*, (2) *arrogant*, (3) *cold*, (4) *moderately introverted*, (5) *highly introverted*, (6) *highly unassuming*, (7) *interpersonally unburdened*, and (8) *moderately unassuming* (Figure 3).²

Table II shows the baseline values of interpersonal problems and psychopathological symptoms for the entire group of patients with depression and the interpersonal subgroups.³ Whereas the 6.4% broadly burdened patients with depression (1) report interpersonal problems across the entire interpersonal circle, most notably in the friendly-dominant range, the 15.0% interpersonally unburdened patients with depression (7) generally report few interpersonal problems. The 9.7% arrogant patients with depression (2) note few interpersonal problems and describe themselves as being rather unfriendly, whereas the 6.4% cold patients with depression (3) describe more distinct and intense interpersonal distance. Both the 22.4% moderately introverted patients with depression (4) and the 18.3% highly introverted patients with depression (5) consider themselves to be distinctly withdrawn. However, the highly

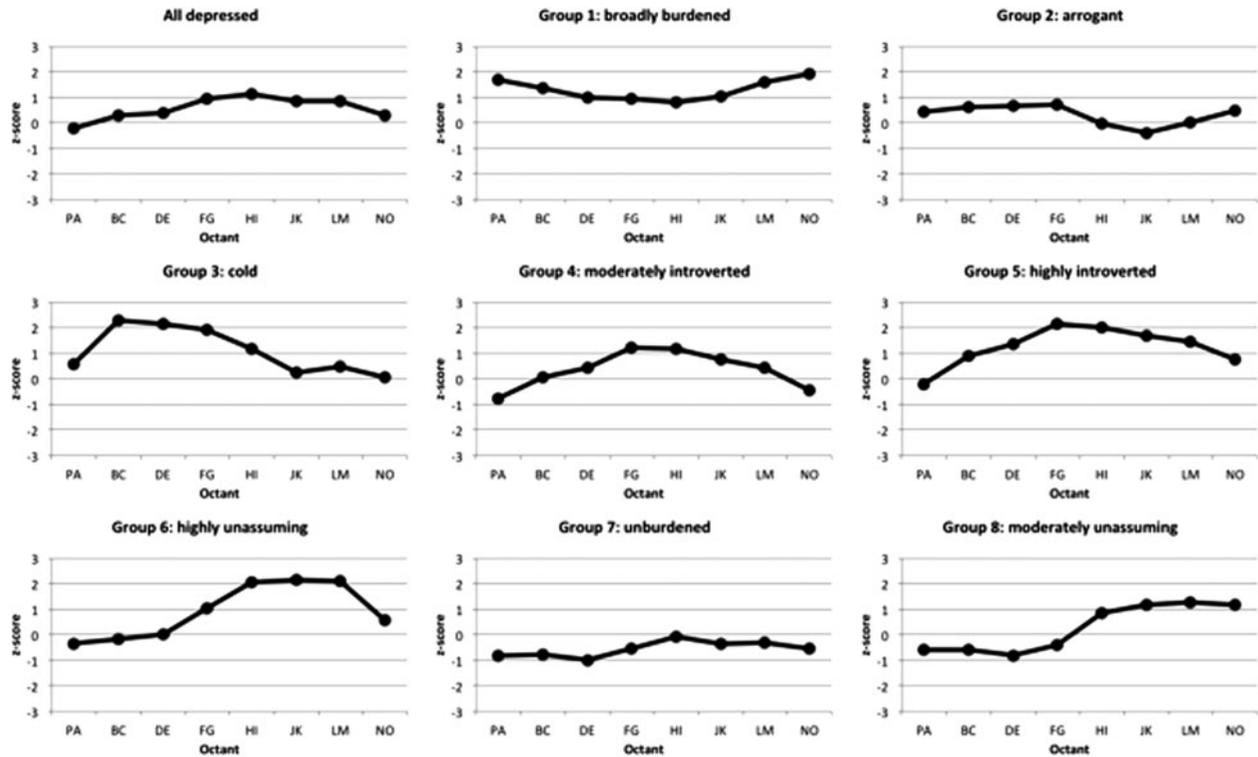


Figure 3. Circumplex structural summary profiles of the interpersonal subtypes in depression. IIP octant scales: PA (too dominant), BC (too hostile-dominant), DE (too hostile), FG (too hostile-submissive), HI (too submissive), JK (too friendly-submissive), LM (too friendly), NO (too friendly-dominant).

introverted patients with depression generally report stronger interpersonal problems than do the former. The 14.4% highly unassuming patients with depres-

sion (6) report strong interpersonal problems with being too friendly and/or being too submissive, whereas the 7.5% moderately unassuming patients

Table II. Baseline symptomatology, circular statistics, and structural summary for patients with depression, interpersonal subgroups, and other patients

	n	Symptomatology			Circular statistics				Structural summary			
		BDI	BSI-D	GSI	Mean	Var.	95% CI UL	95% CI LL	Disp.	Amp.	Elev.	R ²
All patients w/ depression	361	21.48 (9.07)	1.94 (.91)	1.36 (.62)	279.76	60.57	286.01	273.51	280.01	.56	.57	.89
1. Broadly burdened	23	25.31 (8.58)	2.35 (1.75)	1.73 (.50)	55.41	44.24	73.49	37.33	59.65	.52	1.28	.95
2. Arrogant	35	22.07 (11.33)	1.75 (.76)	1.23 (.55)	150.42	52.08	167.68	133.17	146.59	.45	.31	.75
3. Cold	23	22.99 (8.95)	2.15 (1.80)	1.60 (.53)	181.30	24.70	191.40	171.21	184.74	1.09	1.13	.87
4. Moderately introverted	81	19.77 (8.21)	1.80 (.91)	1.24 (.59)	263.26	25.80	268.87	257.64	258.83	.93	.36	.95
5. Highly introverted	66	25.66 (9.33)	2.40 (.84)	1.68 (.62)	265.78	25.43	271.89	259.62	264.72	.93	1.27	.86
6. Highly unassuming	52	22.64 (7.13)	2.14 (.79)	1.55 (.53)	307.19	19.29	312.43	301.95	307.73	1.40	.93	.97
7. Unburdened	54	16.03 (7.28)	1.32 (.82)	.86 (.42)	316.33	60.35	332.42	300.23	313.12	.37	-.55	.82
8. Moderately unassuming	27	19.46 (8.27)	1.89 (.97)	1.26 (.57)	339.49	16.06	345.55	333.43	340.36	1.18	.26	.92
Other patients	959	14.62 (8.21) ^a	1.25 (.91)	1.04 (.62)	281.69	89.94	287.38	275.99	281.69	.46	.27	.90

Note. Traditionally reported circular statistics are reduced to the mean angular projections that account for a lack of a beginning/end to circular scales. Structural summary statistics are more differentiated by reporting the mean level of the profile (elevation), the difference between the mean and peak value (amplitude), the angular shift from 0° for the peak of the curve (displacement), and the fit of the pattern to a sinusoidal curve (r²). BDI = Beck Depression Inventory; BSI-D = Brief Symptom Inventory – Depression scale; GSI = General symptom index of the Brief Symptom Inventory; CI UL = Confidence interval upper limit; CI LL = Confidence interval lower limit; Disp. = Displacement; Amp. = Amplitude; Elev. = Elevation.

^a n = 512.

Table III. Descriptives of the quality of the early alliance for patients with depression and interpersonal subgroups

	BPSR-P			BPSR-T		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Whole depression sample	236	1.95	.57	229	1.65	.51
1. Broadly burdened	17	1.77	.60	16	1.65	.27
2. Arrogant	26	1.93	.65	27	1.58	.48
3. Cold	12	1.51 ^a	.49	11	1.57	.63
4. Moderately introverted	48	2.04	.57	45	1.67	.54
5. Highly introverted	46	1.79 ^b	.60	43	1.61	.58
6. Highly unassuming	36	2.19 ^{a,b}	.49	35	1.83	.41
7. Unburdened	35	1.96	.47	36	1.50	.57
8. Moderately unassuming	16	2.16	.43	16	1.80	.34

Note. BPSR-P = Bern Post-Session Report – patient form; BPSR-T = Bern Post-Session Report – therapist form. Post-hoc comparisons (Bonferroni-corrected): ^a significant at $p = .006$; ^b significant at $p = .03$.

with depression (8) view themselves as being too bothersome for others and report similar, yet weaker, interpersonal problems. As our hypothesis suggested, the majority of patients with depression regard themselves as being too submissive; however, the specific subgroups of patients with depression with clearly distinct interpersonal profiles as extracted with means of LCA comprise the full spectrum of the interpersonal circle.

Symptom Load of Interpersonal Subgroups at Intake (H3)

Next, we examined the symptom load, i.e., general and depressive symptoms, at intake to identify differences between the interpersonal subgroups (Table II). We first tested potential confounding variables, i.e., age, sub-diagnoses of depressive disorders according to the DSM-IV-TR and gender. Chi-square analyses and ANOVAs revealed that membership in interpersonal classes was not related to age, $F(7,274) = 1.06$, $p = .39$, partial $\eta^2 = .026$, or to sub-diagnoses, $\chi^2(14) = 15.58$, $p = .34$. However, the interpersonal classes of patients with depression significantly differed in gender distribution (percentage of females per group: 1: 47 %; 2: 40 %; 3: 22 %; 4: 56 %; 5: 41 %; 6: 64 %; 7: 46 %; 8: 56%), $\chi^2(14) = 23.94$, $p = .047$; thus, we tested the relationship between gender and baseline impairment. Nevertheless, *t*-tests showed no significant gender differences regarding depressive symptoms (BDI, BSI-D) or general symptoms (GSI) (all p values > .08); therefore we did not include gender as a covariate in the following analyses.

We found significant differences between interpersonal subgroups in baseline depressive symptoms for the BDI and the BSI-D (BDI: $F(7,285) = 5.90$, $p < .001$, partial $\eta^2 = .127$; BSI-D: $F(7,351) = 8.63$, $p < .001$, partial $\eta^2 = .147$), and general symptoma-

tology (GSI: $F(7,351) = 13.32$, $p < .001$, partial $\eta^2 = .210$).

In the Bonferroni-corrected post-hoc comparisons utilizing the BDI, the highly introverted (5) were significantly more depressed than the unburdened (7), $p < .001$, $d = 1.14$, and the moderately introverted (4), $p = .007$, $d = .67$. For the BSI-D, several more differences emerged. The highly introverted (5) were significantly more depressed than the arrogant (2), $p = .010$, $d = .79$, and the moderately introverted (4) were more depressed than the unburdened (7), $p = .039$, $d = .55$. Thus, the highly introverted (5) patients with depression reported most depressive symptoms of all the interpersonal subgroups.

The Bonferroni-corrected post-hoc comparisons of general symptomatology revealed the following group differences: The GSI of the broadly burdened (1) was significantly higher than the GSI of the moderately introverted (4), $p = .007$, $d = .86$, the arrogant (2), $p = .025$, $d = .95$, and the unburdened (7), $p < .001$, $d = 1.95$. The GSI of the highly introverted (5) was significantly higher than the GSI of the moderately unassuming (8), $p = .030$, $d = .68$, the moderately introverted (4), $p < .001$, $d = .72$, the arrogant (2), $p = .004$, $d = .75$, and the unburdened (7), $p < .001$, $d = 1.47$. The cold (3) had a significantly higher GSI than the unburdened (7), $p < .001$, $d = 1.61$, and the highly unassuming (6) had a higher GSI than the moderately introverted (4), $p = .043$, $d = .55$. In summary, the general symptomatology was highest for the broadly burdened (1) and the highly introverted (5), and it was lowest for the interpersonally unburdened (7) subgroup of patients with depression.

Early Therapeutic Alliance in Interpersonal Subgroups (H4)

Next, we investigated the differences between the subgroups with respect to the early therapeutic

alliance. For both the patient's and the therapist's assessments of the therapeutic alliance, we aggregated over the first five sessions of the therapy. Table III presents the descriptive statistics for the quality of the early alliance in all subgroups, and the differences between them are reported in the following. An ANOVA revealed significant differences of the early therapeutic alliance as judged by the patients, $F(7,228) = 3.46$, $p = .002$, partial $\eta^2 = .096$. Post-hoc comparisons (Bonferroni-corrected) revealed that the cold (3) reported a significantly worse therapeutic alliance than the highly unassuming (6), $p = .006$, $d = 1.39$. Similarly, the highly introverted (5) group reported a significantly worse therapeutic alliance than the highly unassuming (6) group, $p = .030$, $d = .74$. In contrast, an ANOVA did not reveal any significant differences in the therapist-rated alliance scores between the interpersonal subgroups of patients with depression, $F(7,221) = 1.48$, $p = .175$, partial $\eta^2 = .045$. Thus, in partial support of our hypothesis, a high degree of patient-rated overly hostile and hostile-submissive behavior was associated with a worse early therapeutic alliance, when compared with the overly friendly-submissive patients.

Discussion

The current study examined interpersonal problems in a sample of depressed psychotherapy outpatients in routine care. We compared patients with depression to the general population and other psychotherapy patients regarding their interpersonal problems, assigned the patients with depression to interpersonally defined subgroups, and compared these subgroups with regard to symptom load and the therapeutic alliance in the early phase of psychotherapy. The results indicated that patients with a depressive disorder reported greater overall distress from interpersonal problems and greater submissive problems as compared to the general population (the IIP normative sample) and as compared to patients with other disorders ($n = 959$ patients with different disorders from the same clinic). The patients with a depressive disorder displayed an average localization in the submissive range of the interpersonal circle.

The results of the LCA, however, suggest that not all patients with depression uniformly display a submissive profile. Instead, eight distinct interpersonal subgroups of patients with depression were identified and labeled as (1) broadly burdened, (2) arrogant, (3) cold, (4) moderately introverted, (5) highly introverted, (6) highly unassuming, (7) interpersonally unburdened, and (8) moderately unassuming. In addition, membership in the interpersonal subgroups was related to the baseline level of symp-

tomatology. More specifically, the highly introverted patients with depression showed the most depressive symptoms of all interpersonal subgroups. Regarding general symptomatology, the broadly interpersonally burdened reported the strongest psychopathological symptoms, closely followed by the highly introverted patients. The cold and the highly unassuming patients with depression also reported higher levels of general symptomatology compared with other interpersonal subgroups of patients with depression. Interestingly, the highly introverted and the cold patients with depression also reported a worse therapeutic alliance than the highly unassuming patients, whereas the early relationship as rated by the therapists did not differ between the interpersonal groups.

The finding of greater distress from interpersonal problems in patients with depression compared to patients with other diagnoses as well as *the average localization in the submissive range* replicate previous results and conform to theoretical expectations. The interpersonal sub-classification of patients with depression does not correspond to a diagnostic sub-classification according to the DSM-IV-TR (i.e., single episode, recurrent, or dysthymia). This finding is consistent with earlier research and strengthens the assertion that interpersonal sub-classification may add a clinically valid classification of patients with depression above and beyond clinical diagnoses. Whereas the interpersonal classes comprised most of the interpersonal circle, our classification of patients with depression differed from earlier studies in the resulting number of interpersonally defined classes (Cain et al., 2012; Grosse Holtforth, Altenstein, et al., 2011). These differences can likely be attributed to differing sample properties, interpersonal measure, and analytical methods. Whereas Grosse Holtforth, Altenstein, et al. (2011) analyzed reports on interpersonal features by significant others of psychotherapy outpatients by cluster analyses, and Cain et al. (2012) examined personality self-ratings of patients with depression, many of whom had a diagnosis of a personality disorder using LCA, we also used LCA, but on the basis of IIP-D self-reports. Thus, neither of the studies used the same combination of sample properties, interpersonal measures, and analytical methods.

Whereas the eight subgroups of patients with depression identified in this study comprise areas of interpersonal problems similar to those of the four or six groups of patients with depression identified in previous studies, this more differentiated account better illuminates the relationships of interpersonal problems both with depressive symptoms and with the therapeutic alliance. Whereas an introverted and withdrawn interpersonal stance is generally very prevalent among patients with depression, this

description fails to characterize the totality of all patients with depression. First, a majority but not all patients with depression experience considerable interpersonal problems. One sixth of the sample comprised a subgroup of patients with depression who experience few interpersonal problems.

Second, the introverted patients comprise more than 40% of the depressed sample, and our analysis differentiates this group based on the intensity of interpersonal problems. The highly introverted patients with depression reported not only the highest level of interpersonal problems, but they also reported very strong psychological symptoms and a worse therapeutic alliance than some other subgroups of patients with depression. The group of highly introverted patients with depression thus appears to be worthy of closer attention by researchers and therapists. Further studies are needed to examine the associations between interpersonal characteristics and the strength of depressive symptoms. Some of the observed differences between patients with depression and respondents in the general public, between patients with other diagnoses, and between the subgroups of patients with depression are very substantial, indicating that a sub-classification of patients with depression into interpersonally defined subgroups adds clinically relevant information to symptomatic assessment alone. More specifically, therapists may need to custom-tailor their interventions to the hostile-withdrawn interpersonal style of this patient group. For example, Grosse Holtforth and colleagues (2007) found hostile-withdrawn interpersonal problems to be associated with stronger fears of feeling vulnerable in front of others. Assuming that hostile-withdrawn patients respond unfavorably to directive interventions that they may perceive as coercion to self-disclose or to show emotions, an approach using interventions of motivational interviewing appears more suited (Miller & Rollnick, 2002).

Third, two further subgroups of patients with depression demonstrate clinically meaningful characteristics. Whereas both the broadly interpersonally burdened and the cold patients with depression showed high symptom scores, the cold patients with depression reported a relatively negative early therapeutic alliance. Interestingly, the therapist reports did not mirror these differences. A possible explanation for this finding is that the quality of the therapeutic alliance cannot be adequately estimated from the therapist's assessment alone. This indicates that an assessment of the patient's interpersonal problems by a patient may supplement the therapist's clinical impression of the patient. Since the quality of the therapeutic alliance is one of the most robust predictors of therapy outcome (Horvath, Del

Re, Flückiger, & Symonds, 2011), assessing interpersonal problems may therefore help the therapist to identify patients for whom the early alliance may need special attention. Thus, assessment of interpersonal problems in and outside the therapy room may sensitize the therapist to potential relationship problems (cf. Grosse Holtforth & Castonguay, 2005; Safran & Muran, 2003).

The current study has several limitations that should be overcome in future studies. IIP scores reflect patients' perceptions of their interpersonal problems, so that part of the observed differences and relationships may relate to response styles. In future studies, response styles may be assessed and/or other measures of interpersonal problems may be utilized that are less amenable to response styles. In addition, some of the observed differences between groups of patients with depression may be attributable to a conceptual overlap between depressive symptoms and introverted interpersonal problems. For example, the social withdrawal observable in severely depressed patients might partly account for their interpersonal classification as introverted, and the same patients may seem less introverted when they become less depressed. The medium-sized covariation between the measures of depressive symptoms and interpersonal problems leaves room for this possibility.

Our preliminary results should be replicated in various settings, using assessments from multiple perspectives, with multiple established, psychometrically sound measures for the therapeutic alliance. Future studies may examine whether patients with depression tend to group together in a latent class analysis not only within the subgroup of patients with depression but also over all psychopathological diagnoses. Furthermore, future studies may examine the prediction of the therapy outcome by the interaction of interpersonal problems with the evolving therapeutic alliance. Intake assessments should be supplemented by assessments of chronic depression, personality disorders, and the reliability of diagnostic measures. Therapist characteristics and additional treatments should be assessed in greater detail, and the origins of missing data should be traced systematically. Targeted patient recruitment within predefined interpersonal classes may allow finer-grained analyses of sufficiently sized interpersonal subgroups. Future studies may differentiate between patient and therapist effects and consider the differential development of the therapeutic alliance over time to better explain the complex process-outcome relationships in therapy of depression (Barber, Khalsa, & Sharpless, 2010; Owen, Quirk, Hilsenroth, & Rodolfa, 2012). We expect that a better understanding of the role of interpersonal characteristics and processes will support custom-tailoring psychotherapy of depression and

may contribute to better therapy outcomes (Norcross & Wampold, 2011). However, more research is indicated.

Acknowledgments

We thank the therapists for their outstanding work delivering the treatment, and the research assistants for their efforts in collecting the data. Most important, we thank the patients who participated in the research and gave so generously of their time in data collection.

This research was supported by grants to the first and the fourth authors by the Swiss National Science Foundation (SNSF; No. PP00P1-123377/1 & No. PA00P1_124102). The penultimate author was supported by the National Institute of Mental Health (T32MH018269).

Notes

- ¹ The degrees of freedom can differ somewhat throughout the entire paper because the amount of missing data on all (demographic, interpersonal, symptomatic, and process) variables varied and because subscales were only calculated if data were provided for half of its items.
- ² The classes 6 and 8 have slightly dissimilar average angular locations in the interpersonal space (displacements; see Table II), but their interpersonal profiles are very similar.
- ³ Because the caseload of therapists treating the present sample of patients was relatively low, we did not separate patient effects from therapist effects (see e.g., Baldwin, Wampold, & Imel, 2007; Del Re, Flückiger, Horvath, Symonds, & Wampold, 2012).

References

Alden, L.E., Wiggins, J.S., & Pincus, A.L. (1990). Construction of circumplex scales for the Inventory of Interpersonal Problems. *Journal of Personality Assessment*, 55(3–4), 521–536. doi:10.1080/00223891.1990.9674088

Ansell, E. B., & Pincus, A. L. (2004). Interpersonal perceptions of the five-factor model of personality: An examination using the structural summary method for circumplex data. *Multivariate Behavioral Research*, 39, 167–201.

Baldwin, S.A., Wampold, B.E., & Imel, Z.E. (2007). Untangling the alliance-outcome correlation: Exploring the relative importance of therapist and patient variability in the alliance. *Journal of Consulting and Clinical Psychology*, 75(6), 842–852. doi:10.1037/0022-006X.75.6.842

Barber, J.P., Khalsa, S.R., & Sharpless, B.A. (2010). The validity of the alliance as a predictor of psychotherapy outcome. In J.C. Muran & J.P. Barber (Eds.), *The therapeutic alliance: An evidence-based guide to practice* (pp. 29–43). New York: Guilford Press.

Barrett, M.S., & Barber, J.P. (2007). Interpersonal profiles in major depressive disorder. *Journal of Clinical Psychology*, 63(3), 247–266. doi:10.1002/jclp.20346

Beck, A.T., & Steer, R.A. (1987). *Beck depression inventory - manual*. San Antonio, TX: The Psychological Corporation.

Cain, N.M., Ansell, E.B., Wright, A.G.C., Hopwood, C.J., Thomas, K.M., Pinto, A., et al. (2012). Interpersonal path plasticity in the course of major depression. *Journal of Consulting and Clinical Psychology*, 80(1), 78–86. doi:10.1037/a0026433

Caspar, F., & Grosse Holtforth, M. (2010). Klaus Grawe: On a constant quest for a truly integrative and research-based psychotherapy. In L.G. Castonguay, J.C. Muran, L. Angus, J.A. Hayes, N. Ladany & T. Anderson (Eds.), *Bringing psychotherapy research to life: Understanding change through the work of leading clinical researchers. Legacies from the Society for Psychotherapy Research* (pp. 113–123). Washington DC: APA Books.

Clark, S.L., & Muthén, B. (2009). Relating latent class analysis results to variables not included in the analysis. *Submitted for publication*.

Connolly Gibbons, M.B., Crits-Christoph, P., Barber, J.P., Wiltsey Stirman, S., Gallop, R., Goldstein, L.A., et al. (2009). Unique and common mechanisms of change across cognitive and dynamic psychotherapies. *Journal of Consulting and Clinical Psychology*, 77(5), 801–813. doi:10.1037/a0016596

Constantino, M.J., Laws, H.B., Arnow, B.A., Klein, D.N., Rothbaum, B.O., & Manber, R. (2012). The relation between changes in patients' interpersonal impact messages and outcome in treatment for chronic depression. *Journal of Consulting and Clinical Psychology*, 80(3), 354–364. doi:10.1037/a0028351

Constantino, M.J., & Smith-Hansen, L. (2008). Patient interpersonal factors and the therapeutic alliance in two treatments for bulimia nervosa. *Psychotherapy Research*, 18(6), 683–698. doi:10.1080/10503300802183702

Coyne, J.C. (1976). Depression and the response of others. *Journal of Abnormal Psychology*, 85(2), 186–193. doi:10.1037//0021-843X.85.2.186

Del Re, A.C., Flückiger, C., Horvath, A.O., Symonds, D., & Wampold, B.E. (2012). Therapist effects in the therapeutic alliance-outcome relationship: A restricted-maximum likelihood meta-analysis. *Clinical Psychology Review*, 32(7), 642–649. doi:10.1016/j.cpr.2012.07.002

Derogatis, L.R. (1993). *Brief symptom inventory: Administration, scoring, and procedures manual*. Minneapolis, MN: National Computer Systems.

Dickson, J.M., & MacLeod, A.K. (2004). Approach and avoidance goals and plans: Their relationship to anxiety and depression. *Cognitive Therapy and Research*, 28(3), 415–432. doi:10.1023/B:COTR.0000031809.20488.ee

Dinger, U., Strack, M., Leichsenring, F., & Schauenburg, H. (2007). Influences of patients' and therapists' interpersonal problems and therapeutic alliance on outcome in psychotherapy. *Psychotherapy Research*, 17(2), 148–159. doi:10.1080/10503300600865393

Flückiger, C., Regli, D., Zwahlen, D., Hostettler, S., & Caspar, F. (2010). Der Berner Patienten- und Therapeutenstundenbogen 2000: Ein Instrument zur Erfassung von Therapieprozessen. *Zeitschrift für Klinische Psychologie und Psychotherapie*, 39(2), 17–19. doi:10.1026/1616-3443/a000015

Franke, G.H. (2000). *BSI - Brief symptom inventory von L.R. Derogatis (Kurzform der SCL-90-R)*. Göttingen: Beltz.

Grawe, K. (2004). *Psychological therapy*. Seattle, WA: Hogrefe & Huber.

Grosse Holtforth, M., Altenstein, D., Ansell, E., Schneider, C., & Caspar, F. (2011). Impact messages of depressed outpatients as perceived by their significant others: Profiles, therapeutic change, and relationship to outcome. *Journal of Clinical Psychology*, 67(3), 319–333. doi:10.1002/jclp.20854

Grosse Holtforth, M., & Castonguay, L.G. (2005). Relationship and techniques in CBT – A motivational approach. *Psychotherapy: Theory, Research, Practice, Training*, 42(4), 443–455. doi:10.1037/0033-3204.42.4.443

Grosse Holtforth, M., & Grawe, K. (2002). Bern Inventory of Treatment Goals (BIT): Development and first application of a taxonomy of treatment goal themes. *Psychotherapy Research*, 12(1), 79–99. doi:10.1080/1713869618

- Grosse Holtforth, M., & Michalak, J. (2012). Motivation in psychotherapy. In R.M. Ryan (Ed.), *The Oxford Handbook of Human Motivation* (pp. 441–462). New York: Oxford University Press.
- Grosse Holtforth, M., Pincus, A., Grawe, K., & Mauler, B. (2007). What you want is not what you get: Goal importance, goal satisfaction, and interpersonal problems. *Journal of Social and Clinical Psychology, 26*(10), 1095–1119. doi:10.1521/jscp.2007.26.10.1095
- Grosse Holtforth, M., Wilm, K., Beyermann, S., Rhode, A., Trost, S., & Steyer, R. (2011). Differential change in integrative psychotherapy: A re-analysis of a change-factor based RCT in a naturalistic setting. *Psychotherapy Research, 21*(6), 631–643. doi:10.1080/10503307.2011.602749
- Hammen, C. (2006). Stress generation in depression: Reflections on origins, research, and future directions. *Journal of Clinical Psychology, 62*(9), 1065–1082. doi:10.1002/jclp.20293
- Hardy, A.O., Tracey, T.J.G., Glidden-Tracey, C., Hess, T.R., & Rohlfsing, J.E. (2011). Interpersonal contribution to outcome: the relation of interpersonal distress and symptomatic improvement as a result of psychotherapy. *Clinical Psychology & Psychotherapy, 18*(3), 225–233. doi:10.1002/cpp.709
- Hautzinger, M., Bailer, M., Worall, H., & Keller, F. (1995). *Beck-Depressions-Inventar (BDI): Testhandbuch* (2. Aufl. ed.). Bern: Huber.
- Hersoug, A.G., Mønsen, J.T., Havik, O.E., & Høglend, P. (2002). Quality of early working alliance in psychotherapy: Diagnoses, relationship and intrapsychic variables as predictors. *Psychotherapy and Psychosomatics, 71*(1), 18–27. doi:0.1159/000049340
- Horowitz, L.M. (2004). *Interpersonal foundations of psychopathology*. Washington DC: American Psychological Association.
- Horowitz, L.M., Alden, L.E., Wiggins, J.S., & Pincus, A.L. (2000). *IIP-64/IIP-32 professional manual*. San Antonio, TX: The Psychological Corporation.
- Horowitz, L.M., Rosenberg, S.E., Baer, B.A., Ureno, G., & Villasenor, V.S. (1988). Inventory of interpersonal problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology, 56*, 885–892. doi:10.1037//0022-006X.56.6.885
- Horowitz, L.M., Strauss, B., & Kordy, H. (2000). *Inventar zur Erfassung Interpersonaler Probleme (IIP-D) - Deutsche Version* (2. überarbeitete und neu normierte Auflage ed.). Göttingen: Beltz.
- Horvath, A.O., Del Re, A., Flückiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. *Psychotherapy, 48*, 9–16. doi:10.1037/a0022186
- Joiner, T.E. (2000). Depression's vicious scree: Self-propagating and erosive processes in depression chronicity. *Clinical Psychology: Science and Practice, 7*(2), 203–218. doi:10.1093/clipsy.7.2.203
- Joiner, T.E., & Timmons, K.A. (2009). Depression in its interpersonal context. In I. Gotlib & C. Hammen (Eds.), *Handbook of depression* (Vol. 2, pp. 322–339). New York: Guilford Press.
- Kiesler, D.J. (1983). The 1982 Interpersonal Circle: A taxonomy for complementarity in human transactions. *Psychological Review, 90*(3), 185–214. doi:10.1037//0033-295X.90.3.185
- Kiesler, D.J., & Watkins, L.M. (1989). Interpersonal complementarity and the therapeutic alliance: A study of relationship in psychotherapy. *Psychotherapy: Theory, Research, Practice, Training, 26*(2), 183–194. doi:10.1037/h0085418
- Leary, T.F. (1957). *Interpersonal diagnosis of personality: A functional theory and methodology for personality evaluation*. New York: Ronald Press.
- Lobbetael, J., Leurgans, M., & Arntz, A. (2011). Inter-rater reliability of the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID I) and Axis II Disorders (SCID II). *Clinical Psychology & Psychotherapy, 18*(1), 75–79. doi:10.1002/cpp.693
- McCullough, J.P. (2003). *Treatment for chronic depression - Cognitive behavioral analysis system of psychotherapy*. New York: Guilford Press.
- Miller, W.R., & Rollnick, S.P. (2002). *Motivational interviewing: Preparing people for change*. New York: Guilford Press.
- Muran, J.C., Segal, Z.V., Samstag, L.W., & Crawford, C.E. (1994). Patient pretreatment interpersonal problems and therapeutic alliance in short-term cognitive therapy. *Journal of Consulting and Clinical Psychology, 62*(1), 185–190. doi:10.1037//0022-006X.62.1.185
- Muthén, B., & Muthén, L. (2010). *Mplus: Statistical analysis with latent variables: User's guide* (6th ed.). Los Angeles, CA: Muthén and Muthén.
- Norcross, J.C., & Wampold, B.E. (2011). What works for whom: Tailoring psychotherapy to the person. *Journal of Clinical Psychology, 67*(2), 127–132. doi: 10.1002/jclp.20764
- Nylund, K.L., Asparouhov, T., & Muthén, B.O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling, 14*(4), 535–569. doi:10.1080/10705510701575396
- Owen, J., Quirk, K., Hilsenroth, M.J., & Rodolfa, E. (2012). Working through: In-session processes that promote between-session thoughts and activities. *Journal of Counseling Psychology, 59*(1), 161–167. doi:10.1037/a0023616
- Pueschel, O., Schulte, D., & Michalak, J. (2011). Be careful what you strive for: The significance of motive-goal congruence for depressivity. *Clinical Psychology & Psychotherapy, 18*(1), 23–33. doi:10.1002/cpp.697
- Puschner, B., Bauer, S., Horowitz, L.M., & Kordy, H. (2005). The relationship between interpersonal problems and the helping alliance. *Journal of Clinical Psychology, 61*(4), 415–429. doi:10.1002/jclp.20050
- Puschner, B., Kraft, S., & Bauer, S. (2004). Interpersonal problems and outcome in outpatient psychotherapy: Findings from a long-term longitudinal study in Germany. *Journal of Personality Assessment, 83*(3), 223–234. doi:10.1207/s15327752jpa8303_06
- Renner, F., Jarrett, R.B., Vittengl, J.R., Barrett, M.S., Clark, L.A., & Thase, M.E. (2012). Interpersonal problems as predictors of therapeutic alliance and symptom improvement in cognitive therapy for depression. *Journal of Affective Disorders, 138*(3), 458–467. doi:10.1016/j.jad.2011.12.044
- Safran, J.D., & Muran, J.C. (2003). *Negotiating the therapeutic alliance: A relational treatment guide*. New York: Guilford Press.
- Salzer, S., Leibing, E., Jakobsen, T., Rudolf, G., Brockmann, J., Eckert, J., et al. (2010). Patterns of interpersonal problems and their improvement in depressive and anxious patients treated with psychoanalytic therapy. *Bulletin of the Menninger Clinic, 74*(4), 283–300. doi:10.1521/bumc.2010.74.4.283
- Schwarz, G. (1978). Estimating the dimension of a model. *The Annals of Statistics, 6*(2), 461–464. doi:10.1214/aos/1176344136
- Stangier, U., Esser, F., Leber, S., Risch, A.K., & Heidenreich, T. (2006). Interpersonal problems in social phobia versus unipolar depression. *Depression and Anxiety, 23*(7), 418–421. doi:10.1002/da.20190
- Stangier, U., Ukrow, U., Schermelleh-Engel, K., Grabe, M., & Lauterbach, W. (2007). Intrapersonal conflict in goals and values of patients with unipolar depression. *Psychotherapy and Psychosomatics, 76*(3), 162–170. doi:10.1159/000099843
- Steinmeyer, E.M. (1993). Zur klinischen Validität des Beck-Depressionsinventars: Eine facettenreichtestische Reanalyse multizentrischer klinischer Beobachtungsdaten. *Nervenarzt, 64*(11), 717–726.
- Strauman, T.J. (2002). Self-regulation and depression. *Self and Identity, 1*(2), 151–157. doi:10.1080/152988602317319339
- Strauman, T.J., Vieth, A.Z., Merrill, K.A., Kolden, G.G., Woods, T.E., Klein, M.H., et al. (2006). Self-system therapy as an intervention for self-regulatory dysfunction in depression: A randomized comparison with cognitive therapy. *Journal of*

- Consulting and Clinical Psychology*, 74(2), 367–376. doi:10.1037/0022-006X.74.2.367
- Tracey, T.J.G. (1993). An interpersonal stage model of the therapeutic process. *Journal of Counseling Psychology*, 40(4), 396–409. doi:10.1037/0022-0167.40.4.396
- Tracey, T.J.G., Rounds, J., & Gurtman, M. (1996). Examination of the general factor with the interpersonal circumplex structure: Application to the Inventory of Interpersonal Problems. *Multivariate Behavioral Research*, 31(4), 441–466. doi:10.1207/s15327906mbr3104_3
- Vittengl, J.R., Clark, L.A., & Jarrett, R.B. (2003). Interpersonal problems, personality pathology, and social adjustment after cognitive therapy for depression. *Psychological Assessment*, 15(1), 29–40. doi:10.1037/1040-3590.15.1.29
- Wiggins, J.S. (1979). A psychological taxonomy of trait-descriptive terms: The interpersonal domain. *Journal of Personality and Social Psychology*, 37(3), 395–412. doi:10.1037//0022-3514.37.3.395
- Wiggins, J.S. (1991). Agency and communion as conceptual coordinates for the understanding and measurement of interpersonal behavior. In W.M. Grove & D. Cicchetti (Eds.), *Thinking clearly about psychology: Vol. 2. Personality and psychopathology* (pp. 89–113). Minneapolis, MN: University of Minnesota Press.
- Wittchen, H.-U., Wunderlich, U., Gruschwitz, S., & Zaudig, M. (1997). *Strukturiertes Klinisches Interview für DSM-IV, Achse I (SKID)*. Göttingen: Hogrefe.
- Wright, A.G.C., Pincus, A.L., Conroy, D.E., & Hilsenroth, M.J. (2009). Integrating methods to optimize circumplex description and comparison of groups. *Journal of Personality Assessment*, 91(4), 311–322. doi:10.1080/00223890902935696