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Attachment, Contemporary Interpersonal Theory and IPT: An Integration of Theoretical, Clinical, and Empirical Perspectives

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Abstract Interpersonal Psychotherapy (IPT) is an effective, pragmatic treatment for depression but interpersonal explanations of its effectiveness are not fully developed. This paper presents an integration of aspects of attachment theory and contemporary interpersonal theory which explains how interpersonal interactions contribute to a clinical understanding of depression and its treatment through IPT. We test hypotheses of interpersonal change in a case series of depressed patients treated with IPT. The results demonstrate that both attachment insecurity and interpersonal problems improve significantly over a 16 week course of treatment. Further research into the interpersonal processes that alleviate depression is needed.

Keywords Attachment · Circumplex · Contemporary interpersonal theory · Interpersonal psychotherapy (IPT) · Depression

Three decades of outcome research strongly support Interpersonal Psychotherapy (IPT) as an effective treatment for depression in differing settings and cultures across the lifespan (Bolton et al. 2003; Elkin et al. 1989; Frank et al. 1990; Markowitz et al. 1999; Mufson et al. 2004b; Mufson et al. 2004; Mufson et al. 1999; O'Hara et al. 2000; Reynolds et al. 1999), in spite of some IPT depression trials with negative or equivocal results (Lesperance et al. 2007) (Markowitz et al. 2005). Although we are beginning to understand the determinants of treatment outcomes (Barber 1996; Frank et al. 2000; Krupnick et al. 1996; McBride et al. 2006), an understanding of how IPT works has lagged behind evidence of its efficacy. This paper focuses on interpersonal explanations of the effectiveness of IPT.

One obstacle to understanding IPT's mode of action is that there has been little process research. More fundamentally, when Klerman, Weissman and others first developed IPT (Klerman et al. 1984), they adopted a biopsychosocial explanatory model of illness but avoided etiologic formulations of depression. IPT has rested on empiric associations between depression and the specific interpersonal disruptions that are the focus of therapy—losses, conflicts, changes and isolation. Driven in part by clinical observation, more recent descriptions have expanded the rationale and background of IPT; nonetheless, the process by which change occurs has still not been addressed (Mufson et al. 2004b; Ravitz 2004; Stuart and Robertson 2003a). As a result, the empirical success of IPT has not served to validate an underlying interpersonal theory of depression; it remains unclear whether or not IPT's interpersonal focus and specific techniques are the reason for its effectiveness.

Two interpersonal theories have been prominent in the discussion of IPT: Bowlby's attachment theory, which was one of the cornerstones of IPT at its onset, and more recently, Kiesler's contemporary interpersonal theory (Bowlby 1988; Kiesler 1996; Mufson et al. 2004b; Ravitz 2004; Stuart and Robertson 2003b). The first goal of this paper is theoretical; to describe how these two interpersonal theories can be integrated in an etiological formulation of depression. The second goal is clinical; to

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describe how these theoretical perspectives can be combined in the delivery of IPT. The final goal is empirical; to test if the changes in interpersonal function that are predicted to result from IPT actually occur in patients treated at an IPT clinic.

Interpersonal Theories of Depression I: Attachment Theory

Attachment theory proposes that inter-dependent relationships are both adaptive and crucial for survival (Belsky 1999; Bowlby 1969). Intimate interaction between a care provider and an infant is a prerequisite for the establishment of both physiological homeostasis and subjective feelings of security. Bowlby described how differences in early relational experiences lead to subsequent individual differences in preferred patterns of interacting with others. These early attachment experiences guide the development of "internal working models," which are experience-based predictive templates, referred to as schemas that inform an individual's relational expectations, perceptions, and behaviors. The internal working model encodes appraisal mechanisms for detecting and reacting to threat, and for predicting what one might expect of others in these circumstances. The schemas encoded in the internal working model result in patterns of relatively secure or insecure attachment.

In human infants and children, stable attachment classifications are identified using Ainsworth's Strange Situation (Ainsworth et al. 1978). These classifications define patterns of interpersonal behavior that are manifested under the stress of the temporary unavailability of a parent. Attachment theory holds that each type of childhood attachment represents the most adaptive relationship strategies available to an infant given his or her temperament and the parenting environment in which he or she is raised. A secure infant has had sufficiently positive early relational experiences to have developed both the capacity for self-soothing and the ability to trust and draw comfort from others under stressful conditions. Insecure infants often have a history of parental misattunement, neglect or abuse. Parental anxiety and inconsistency in responsiveness relative to the temperamental needs of the child favor the anxious type of attachment insecurity, whereas consistently insensitive, neglectful, or abusive parental behavior favors the relative de-activation of attachment behavior that characterizes avoidant infants. Insecure patterns of attachment are often maladaptive later in life when they are expressed in relationships outside the family of origin.

Attachment theory is relevant to depression in adults because attachment security remains a powerful force in adulthood, although it is recognized in different circumstances and by different means. In adults, the Adult Attachment Interview was developed to assess attachment "states of mind," related to, for example, the ability to maintain a coherent narrative while describing attachment experiences (Hesse 1999). In our work, as well as others working in the IPT arena, we adopt the constructs and tools of a body of attachment research which has focused on adult romantic relationships. Adult attachment relationships have been defined as the class of relationships in which proximity to the other person affects one's sense of felt security (West and Sheldon-Kellor 1994). This definition includes most relationships between intimate partners or confidantes but excludes relationships that provide generic social support. Romantic attachment has largely been measured by self-report instruments that probe an individual's expectations and attitudes towards romantic partners, particularly with respect to dependence, trust, the expectation of abandonment and emotional intimacy. This body of work has yielded a consensus that romantic attachment can be characterized along two dimensions, attachment anxiety (which corresponds to a negative appraisal of oneself) and attachment avoidance (which corresponds to a negative appraisal of others) (Bartholomew and Horowitz 1991; Bartholomew and Shaver 1998). This conceptualization as it applies to IPT was first described by Stuart and Robertson, and has been used more extensively over the last several years.

The application of adult attachment anxiety and attachment avoidance to aspects of health and interpersonal function goes well beyond romantic relationships. Attachment insecurity is associated with stress response because it affects one's appraisal of stressful life events, and may alter aspects of physiological stress response and recovery from stress (Maunder and Hunter 2001). Insecure attachment may lead to ineffective help-seeking behavior which can reduce the potential of social support to buffer stress. For example, individuals with an anxious attachment style view themselves as vulnerable and lacking in efficacy. Anxious attachment is associated with a lower threshold for activating attachment behaviors that are intended to signal distress and increase proximity to others. Thus, at times of stress, attachment anxiety leads an individual to seek and benefit from social support, particularly support from attachment figures. However, attachment anxiety may also increase the likelihood that others will eventually withdraw because such entreaties are too frequent or intense, such that help-seeking is perceived to be excessive. In contrast, attachment avoidance is associated with distrust of others, and the perception of self-sufficiency. For such an individual, intimacy and offers of support may be experienced as aversive, and support is not sought.

The links between attachment security, stress regulation and social support provide potential mechanisms by which insecure attachment may contribute to depression. The relationship between adult attachment and depression has been extensively discussed and studied (Bifulco et al. 2006; Bifulco et al. 2002b; Bowlby 1980; West et al. 1998) Rosenstein and Horowitz 1996; Patrick et al. 1994). The US National Comorbidity Survey, for example, found a positive correlation between lifetime major depression and insecure attachment (Mickelson et al. 1997). While much evidence supports an association between insecure attachment and depressive risk, it is unclear if this risk is related to attachment avoidance or attachment anxiety in particular, or rather to the severity of insecurity in general (Bifulco et al. 2002a).

Interpersonal Theories of Depression II: Contemporary Interpersonal Theory, Circular Causality and the Circumplex

While attachment theory describes interactions between intimates and confidantes, contemporary interpersonal theory examines the impact of a broader class of interpersonal interactions in relationships. In IPT it is useful to explore interpersonal difficulties without limiting the domain of enquiry to attachment relationships. Kiesler's interpersonal communications theory (Kiesler 1996) offers a helpful way to understand and examine interpersonal motivations, communication, interactions and impacts across all relationships. Kiesler conceptualizes interpersonal patterns of "circular causality," in which individuals continually affect and are affected by others. This brings attention to the often unconscious, or inadvertent impact of interpersonal behavior, for example when unmodulated, intrusive neediness alienates instead of engaging others. Kiesler's model can help the clinician to identify alternative interpersonal behaviors that pull for affiliation and a sense of agency in relationships, rather than the depressogenic poles of disengagement and passivity, which can result in worsening despair, isolation and low self-esteem.

When relationship problems occur, they can be exacerbated by an automatic or rigid style of communicating that pulls inadvertent, unwished for responses from others (Kiesler 1996). Kiesler's principle of complementarity states that the communications, behaviors, emotions, and thoughts of two people are causally interconnected, with interpersonal behaviors from one individual predictably pulling for specific interpersonal responses from the other. Complementarity is operationalized using Kiesler's (1983) interpersonal circumplex. The circumplex is arranged like a compass face which represents interpersonal behaviors occurring along two independent interpersonal dimensions: agency (north–south) and affiliation (east–west). Affiliative interpersonal behaviors vary between the poles of friendliness (east) vs. disengagement (west), and tend to pull for similar, complementary behaviors in others (e.g. friendliness pulls for a friendly response and interpersonal closeness, and hostility or disengagement pulls for a hostile response and interpersonal distance). Interpersonal behaviors related to agency vary between poles of dominance (north) vs. submissiveness (south), and tend to pull for reciprocal responses from others (e.g. dominance pulls for submission).

Specific interpersonal problems have been identified that exemplify a spectrum of maladaptive behaviors on the circumplex (Horowitz et al. 1988). Problems related to interpersonal distance range from being overly cold and socially inhibited to intrusive enmeshment. Problems related to interpersonal agency range from non-assertiveness and being exploitable to dominance and exploitive, vindictive control. Linking Kiesler's principles of circular causality to Horowitz's classifications of interpersonal problems on the circumplex, one can formulate that interpersonal problems occur as a result of maladaptive transactions which contribute to self-perpetuating relational patterns. Depressed patients typically inhabit the southern hemisphere of the circumplex, with a tendency to become disengaged from their social supports, lacking in self-esteem and interpersonal agency.

Complementary and reciprocal interpersonal pulls are innate in all interpersonal interactions. This framework allows us to understand interpersonal problems as recurrent interactions or behaviors which lead to disappointment because they fail to recruit proximity or support, and instead paradoxically extinguish the interest of others at times of need. The interpersonal course of depression can be formulated as a vicious cycle in which maladaptive interpersonal transactions amplify depressogenic processes. Once suffering from depression, patients become more disengaged from their social network and lose their sense of agency or esteem (Joiner et al. 1999; Kiesler 1996; McCullough 2000) which perpetuates despair and isolation.

Interpersonal Specificity of IPT

The goals of IPT are to alleviate depressive symptoms, improve interpersonal functioning and work through problems related to change, loss, isolation, or conflict in relationships that are associated with the onset or perpetuation of depressive symptoms (Klerman et al. 1984; Mufson et al. 2004a; Stuart and Robertson, 2003a; Weissman et al. 2007). The IPT manuals provide content guidelines for enquiry and exploration of specific interpersonal problem areas. Therapeutic strategies include:

clarification of feelings, expectations, and social roles (in family, with peers and in community or workplace); education; and development of social competence through interpersonal problem solving, modeling, role playing, and communication analysis. While many of IPT's therapeutic strategies are common to other psychotherapies, it is our challenge to more precisely define the therapeutic stance and techniques that are specific to IPT.

Several therapist activities are IPT-specific. In a therapeutic hour where patients spontaneously report on their affectively charged and unpredictable experiences of the past week, the IPT therapist will focus the lens on the interpersonal interactions that are linked with symptoms. Selecting these interactions highlights their importance and allows the patient to reflect on the impact of these interactions in the context of life events on both mood and their qualitative experience of the relationship.

Once attention is focused at the level of interpersonal experience, the details are explored through communication analysis. Sullivan's interpersonal theory of emotions (Sullivan 1953) emphasized the need to be understood by others and to derive meaning within an interpersonal context. Furthermore he proposed that the most significant triggers of emotions are others' interpersonal communications. In a communication analysis, IPT therapists unpack the details of affectively charged conversations, identifying ineffective interpersonal patterns, with the goal of helping patients to communicate better. The details provide a biopsy of interpersonal functioning, and patients are helped to explore the possibility of new experiences within their interpersonal worlds.

Analyzing communication addresses several goals. It helps patients to author the interactions they wish instead of inadvertently authoring what they dread; to attend to affective states as markers of opportunities to reflect; to become aware of interpersonal impacts; to improve the accuracy of their interpretation of interpersonal interactions; and to shift what they expect of themselves and others toward the reasonable and the realistic. The purpose of communication analysis is to lessen depression by improving interpersonal functioning. Mufson comments that "changing certain communications will change the responses that he elicits in his relationship and thereby change the emotional valence of that relationship, which will, in turn, reduce his feelings of depression." (Mufson et al. 2004a).

More explicitly contextualized in attachment and contemporary interpersonal theories, communication analysis can be viewed as a therapeutic opportunity to examine and modify an individual's attachment experience, interpersonal impact and resultant behavior. By choosing an affectively charged moment, the IPT therapist encourages the patient to reflect on a time when distress is high and attachment behaviors are activated. In IPT, within the safety of a therapeutic space the therapist can retrospectively examine the depressed person's appraisal of an interpersonal interaction, including his or her expectations of others, perceived support, communication of needs and emotions and the reciprocal interpersonal impacts. In this way, in the nomenclature of attachment theory, work is done to alter the internal working model. And in the nomenclature of contemporary interpersonal theory, work is done to alter transactional impacts. The patient is helped to plan future interactions in which he or she might have a different, more effective experience of both seeking and receiving social support.

This integration of clinical and theoretical perspectives leads to several questions which can be explored empirically. We report an analysis of a case series of depressed patients treated with IPT, using the available data to test the hypotheses that IPT modifies the internal working model towards greater security, and that IPT reduces interpersonal problems. We also explore the relationship between baseline interpersonal variables and treatment outcome and the inter-relationship between improvements in interpersonal variables and improvement in depressive symptoms over the course of IPT.

Methods

We studied a consecutive series of patients treated in an outpatient IPT clinic situated within a university affiliated, tertiary care psychiatric hospital. Patients were referred to the clinic by their family doctors and/or psychiatrists. Consenting subjects were included in the series if they were diagnosed with unipolar, non-psychotic major depression (*DSM-IV-R*; American Psychiatric Association, 2000) assessed by the *Structured Interview for DSM-IV, Axis I Disorders* (SCID-I/P; First, Spitzer, Gibbon, & Williams, 1995) administered by trained and supervised psychology students and staff. The interviewers were supervised by a Ph.D. clinical psychologist (last author, C.M.) and reviewed regularly to avoid criterion shifts in the assessment of symptoms. Exclusion criteria included: bipolar disorder, post-traumatic stress disorder, borderline or antisocial personality disorder, organic brain syndrome, psychotic symptoms and acute suicidality.

Patients received 12–16 weekly psychotherapy sessions according to the IPT treatment manual (Weissman et al., 2000). The therapists included some of the authors (PR and CM), along with psychiatry residents and master's and Ph.D. level psychology students supervised by the authors to ensure adherence to IPT. Depression, attachment insecurity and interpersonal problems were measured at the onset and completion of treatment. Therapists were blind to measures of attachment insecurity and interpersonal

problems. Ethical approval was obtained from the Research Ethics Board of the Centre of Addiction and Mental Health (CAMH), University of Toronto.

Measures

The Hamilton Rating Scale for Depression (HRSD, Hamilton, 1960, 1967) is a 17-item structured interview intended to assess the degree of depressive symptomatology in patients. The HRSD has demonstrated good reliability and validity. It is the most widely used instrument to assess the severity of depression in clinical settings and clinical trials.

The Beck Depression Inventory-II (BDI-II, Beck et al. 1996) is a widely used 21-item self-report measure of severity of depression. The BDI-II is scored by summing the ratings for the 21 items, with the maximum score being 63. Higher scores indicate higher levels of depressive symptoms. The BDI-II has good internal consistency, retest reliability and concurrent and construct validity (Beck et al. 1996).

The Experience in Close Relationships-Revised (ECR-R) is a 36-item self-report questionnaire that surveys attitudes towards close relationships with intimate partners. Each statement is scored on a 7-point scale ranging from strongly disagree through neither agree nor disagree to strongly agree (Fraley et al. 2002). Its reliability and validity are established (Sibley et al. 2005).

The Inventory of Interpersonal Problems-64 (IIP-64, Horowitz et al. 1988) is a self-report questionnaire designed to measure interpersonal problems and associated distress. Participants rate on a 5-point scale from 0 (*not at all*) to 4 (*extremely*) the degree to which they experience a range of interpersonal problems, clustered into eight domains: Domineering; Vindictive; Overly-Cold; Socially Avoidant; Non Assertive; Exploitable; Overly Nurturant; and Intrusive. These domains plot onto the interpersonal circumplex. The IIP-64 has demonstrated adequate test–retest reliability, convergence to an established measure of interpersonal styles, and responsiveness to changes in psychotherapy.

Analysis

Patients were designated as dropouts if they did not start therapy or if they discontinued therapy after fewer than 12 sessions. Treatment response was determined by SCID when pre- and post-measures were available (105 patients), by the HRSD when SCID data were unavailable (11 patients) and by BDI-II when neither SCID not HRSD were available (4 patients). For patients assessed by HRDS, complete treatment response was defined as a score less than 7, and partial response as a score >7 and <15. For patients assessed by BDI-II, complete treatment response was defined as a score <14, and partial response as a 50% reduction in BDI-II score and a final score below 19.

Differences in continuous variables between dropouts and treatment completers were tested by *T*-test. Among treatment completers, pre-post-treatment changes in continuous variables were tested by paired-samples *T*-test in the full sample. This analysis was repeated in subgroups defined by treatment response in order to determine the relationship between changes in depression and changes in interpersonal variables.

Results

Description of the Patients

Of 183 patients who qualified for IPT, 145 (79.2%) completed treatment. Full remission was obtained by 71 patients (38.8% of all patients, 49.0% of treatment completers) and partial remission by 52 patients (28.4% of all patients, 35.9% of treatment completers). Thus, 84.9% of patients who completed treatment experienced full or partial remission of depressive symptoms (67.2% of all patients who qualified for treatment).

The mean age of patients who completed treatment was 38.5 years (SD = 11.5). Most patients were female (n = 103, 71.5%). Fifty-eight patients (40.0%) had at least one co-morbid diagnosis including dysthymic disorder (n = 27), anxiety disorders (n = 23), substance disorders (n = 9), and eating disorders (n = 4). Ninety patients (62.1%) were treated with an antidepressant drug during therapy. There was no difference between patients treated with antidepressants and those not treated with antidepressants with respect to treatment outcome (Chi-square = 4.2, df = 2, p = 0.13), or pre-post treatment decrease in total interpersonal problems (antidepressant: 19.4 ± 27.4 vs. no antidepressant: 15.8 ± 31.5, p = 0.55), attachment anxiety (0.17 ± 0.98 vs. 0.42 ± 0.87, p = 0.18), or attachment avoidance (0.31 ± 0.93 vs. 0.17 ± 1.03, p = 0.47).

Pre-Treatment Interpersonal Function

Among participants who completed treatment with IPT, the focus of IPT therapy, as determined clinically, was grief in 13 people (9.0%), transitions in 65 (44.8%), interpersonal disputes in 60 (41.4%) and interpersonal deficits in 7 (4.8%). Interpersonal problems at the start of treatment were greatest in the southern hemisphere of the interpersonal circumplex, including problems with social inhibition, nonassertiveness, being overly accommodating and self-sacrificing (Fig. 1). Baseline ECR-R scores were

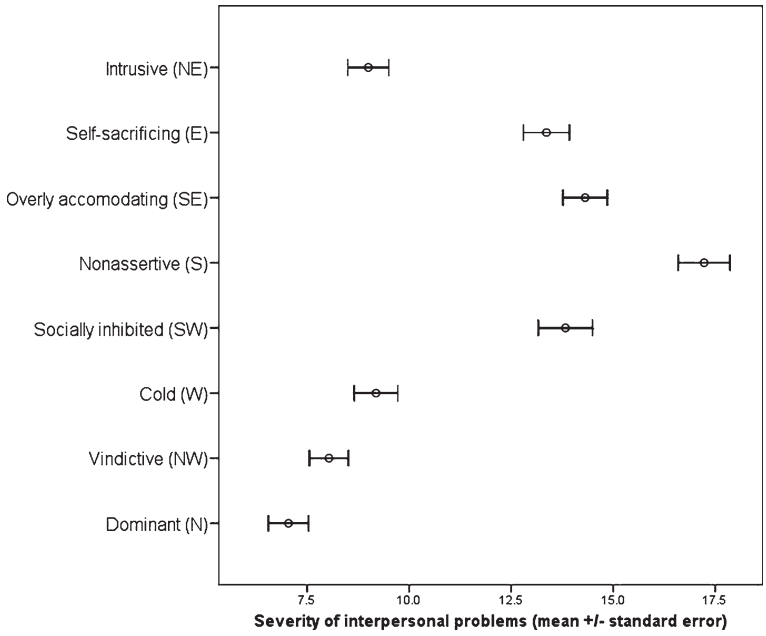

Fig. 1 Severity of interpersonal problems in depressed adults treated with IPT

attachment anxiety, mean 4.28 ± standard deviation 1.20, and attachment avoidance, 3.32 ± 1.17. Pre-treatment attachment avoidance and attachment anxiety were not correlated ($R = 0.06$, $p = 0.50$).

Prior to treatment, attachment insecurity and interpersonal problems were inter-related. Many of the correlations between pre-treatment attachment dimensions and interpersonal problems were significantly > 0 but not strong. As illustrated in Fig. 2, stronger correlations were found between interpersonal problems in the "western hemisphere" (vindictive, cold) and attachment avoidance, whereas attachment anxiety was more strongly correlated with interpersonal problems in the eastern hemisphere (self-sacrificing).

The Relationship of Baseline Interpersonal Function to Treatment Outcome

Treatment dropouts were not distinguished from treatment completers with respect to baseline levels of attachment avoidance (dropouts: mean 3.0 ± standard deviation 0.9 vs. completers: 3.3 ± 1.2, $p = 0.14$), attachment anxiety (4.4 ± 1.4 vs. 4.3 ± 1.2, $p = 0.59$), total interpersonal problems (93.9 ± 29.6 vs. 93.2 ± 31.4, $p = 0.92$), or any of the subscales of the interpersonal circumplex (mean values not shown, all $p > 0.05$).

Among patients who completed treatment, non-responders started therapy with significantly higher levels of total interpersonal problems (114.5 ± 25.9 vs. 88.3 ± 30.8,

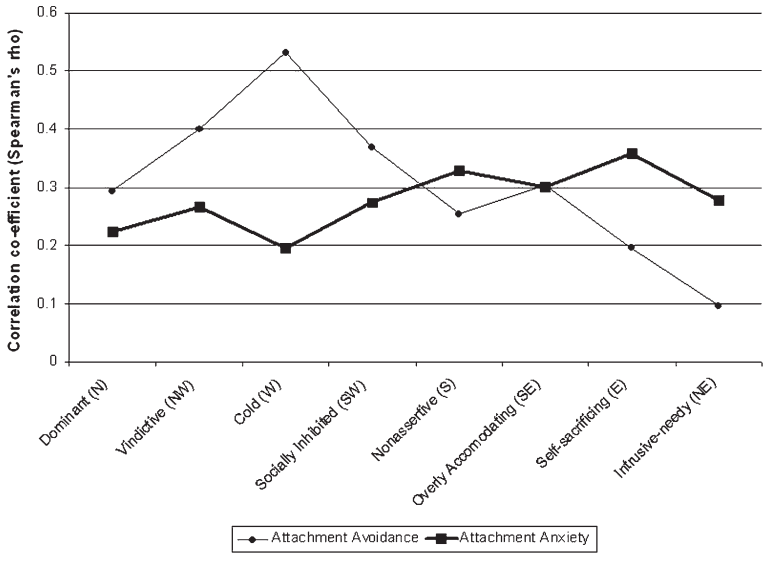

Fig. 2 Correlations between interpersonal problems and attachment insecurity in depressed adults

Table 1 Pre-post change in interpersonal variables over the course of IPT in treatment responders and nonresponders

	Responder (n = 48)		Partial responder (n = 42)		Nonresponder (n = 16)	
	Pre-post change		Pre-post change		Pre-post change	
	Mean (SD)	Signif.	Mean (SD)	Signif.	Mean (SD)	Signif.
Attachment anxiety	–0.32 (1.09)	0.03	–0.18 (0.85)	0.18	–0.35 (1.02)	0.19
Attachment avoidance	–0.33 (1.00)	0.04	–0.18 (0.89)	0.20	–0.24 (0.75)	0.23
Interpersonal problems						
Dominant	–2.58 (4.60)	<0.001	–1.30 (4.42)	0.08	–0.50 (3.54)	0.58
Vindictive	–2.22 (5.02)	0.003	–2.69 (4.13)	<0.001	–0.35 (3.00)	0.63
Cold	–2.57 (3.80)	<0.001	–2.17 (5.37)	0.02	–1.59 (5.26)	0.23
Socially inhibited	–2.80 (5.37)	0.001	–3.50 (5.31)	0.001	–0.25 (6.55)	0.88
Nonassertive	–2.88 (5.71)	0.001	–2.73 (6.97)	0.02	–1.20 (5.67)	0.43
Overly accommodating	–3.12 (5.81)	<0.001	–2.70 (5.10)	0.004	–0.31 (4.30)	0.78
Self-sacrificing	–2.39 (5.15)	0.004	–2.71 (5.10)	0.003	1.40 (4.94)	0.29
Intrusive	–1.79 (4.16)	<0.001	–2.47 (4.93)	0.005	–0.71 (4.52)	0.53
Total	–20.90 (28.74)	<0.001	–19.05 (30.79)	0.001	–4.16 (24.66)	0.50

p = 0.001), attachment anxiety (non-responders: 4.8 ± 1.0 vs. responders: 4.2 ± 1.2, p = 0.03) and depressive symptoms (BDI 30.8 ± 11.8 vs. 25.0 ± 9.2, p = 0.04) but did not differ from those with a partial or full response with respect to baseline levels of attachment avoidance (3.6 ± 1.2 vs. 3.3 ± 1.2, p = 0.23).

Pre-Post-Treatment Change in Interpersonal Variables

Of the 145 patients who completed treatment, 106 (73.1%) completed pre- and post-treatment measures of attachment style. Over the course of therapy there was a decrease in attachment anxiety (mean change –0.27 ± standard deviation 0.94, df = 105, p = 0.007), in attachment avoidance (–0.26 ± 0.94, df = 105, p = 0.004) and in total interpersonal problems (–17.5 ± 29.3, df = 104, $p < 0.001$). Table 1 demonstrates that when patients were grouped by treatment response, improvements in interpersonal problems were present across the full range of the interpersonal circumplex but were limited to patients with a partial or full treatment response. Attachment anxiety and attachment avoidance were significantly reduced in patients with a full treatment response.

Discussion

In this case series we found relationships between interpersonal constructs which support an integration of attachment theory and the interpersonal circumplex in depression. Interpersonal problems at the start of treatment were greatest in the southern hemisphere of the interpersonal circumplex, consistent with the helplessness, powerlessness and low interpersonal agency that characterizes depressed patients (Akiskal and McKenney 1975; Joiner et al. 1999; McCullough 2000; Weissman 2006). Attachment anxiety was most strongly correlated with interpersonal problems in the more affiliative eastern hemisphere. Attachment theory proposes that attachment anxiety results from early life experiences of inconsistently available care. Under these conditions it is adaptive to remain vigilant to the risk of losing attachment figures and to simultaneously, actively seek proximity. Bartholomew and Horowitz's formulation of the association between anxious adult attachment (i.e., high attachment anxiety and low attachment avoidance) and both a negative sense of self and a positive sense of others (Bartholomew et al. 1991), also predicts interpersonal pulls in the direction of affiliation. Attachment avoidance was most strongly correlated with problems in the interpersonally disengaged western hemisphere. Consistent with attachment theory attachment avoidance is proposed to result from early life experiences with attachment figures who were consistently unavailable or punitive of proximity. Under these conditions it is adaptive to maintain interpersonal distance. Thus, in the context of depression there is a logically consistent relationship between these aspects of attachment insecurity and interpersonal problems as they are more broadly defined.

We asked if interpersonal variables at the beginning of treatment were associated with treatment outcome. Somewhat surprisingly, dropping out of treatment was not associated with interpersonal problems or attachment style. However, among patients who completed treatment, those whose depression did not respond to IPT started therapy with significantly higher levels of depressive symptoms, interpersonal problems and attachment anxiety. It is

possible that a longer course of treatment might be required for those with more interpersonal problems.

Previously, McBride and colleagues reported that in a clinical trial, IPT worked less well than Cognitive Behavioral Therapy in depressed patients with attachment avoidance (McBride et al. 2006). This finding makes clinical sense, since the mistrust of intimacy, dependence and self-disclosure that typifies attachment avoidance is an impediment to engaging in a therapy such as IPT whose focus is on relational affiliation. In this case series, however, we did not find an association between attachment avoidance and non-response to IPT. We note the possibility of Type II error as a result of the small number of non-responders in the analysis ($n = 16$).

The most robust finding of our study was that interpersonal problems improved in the patients whose depression responded to or remitted with IPT, which is consistent with other studies in which social adjustment and functioning improved with response to IPT (Bolton et al. 2003; Mufson et al. 2004). While this finding is consistent with IPT's goals of improving depression by addressing interpersonal problems, the causal direction of this association remains untested. It would be useful to determine, for example, if the improvement in interpersonal problems which is concurrent with resolution of depression in IPT is also observed when depression resolves in response to cognitive-behavioral therapy or antidepressant medication. The ability of psychotherapy to modify attachment style or attachment classification has received relatively little previous study. Fonagy et al. reported change in attachment following one year of psychoanalytically oriented inpatient treatment of 35 psychiatric patients. All were insecurely attached at admission and 40% were classified as securely attached on discharge (Fonagy, Leigh, Steele, Kennedy, Mattoon et al. 1996). In another study of one year of Transference Focused Psychotherapy for patients with borderline personality disorder with a small sample of ten patients, 30% changed from insecure to secure on the Adult Attachment Inventory. The remainder showed minimal change or shifted from classifiable insecure attachment to a category referred to as 'cannot classify' which can be indicative of attachment pathology (Diamond et al. 2003a; Diamond et al. 2003b). Travis and colleagues examined change in attachment for 29 patients treated with time-limited dynamic psychotherapy. Using rating scales developed by Bartholomew and Horowitz, they found the 24% who changed from insecure to secure had the lowest level of pre-treatment symptoms. The majority changed from one insecure attachment style to another insecure attachment style. Of the insecure styles of attachment, those with high anxiety and high avoidance are defined as 'fearful attachment.' In this study, they found a significant decrease in the number of clients with 'fearful attachment.'(Travis, Bliwise, Binder, & Horne Moyer, 2001).

Understanding how psychotherapy may modify attachment insecurity must be considered in the context of what is known about how attachment may change over the course of life. Two longitudinal studies which followed childhood attachment and into young adult adulthood suggest that attachment classification was relatively stable (72% consistent) in a white, middle class cohort (Waters et al. 2000), but quite inconsistent (39% consistent) in a cohort selected for its high risk of poor developmental outcomes (Weinfield et al. 2000). In the high risk cohort, the direction of change in attachment was largely from a secure classification in childhood to an avoidant classification as young adults. We infer that chronic exposure to adverse conditions leads to the adaptive development of a relative de-activation of attachment strategies. These studies support both relative stability of attachment style over time and rule-dependent change under conditions of prolonged stability or adversity. Other longitudinal research, using measures of romantic attachment, has suggested that attachment anxiety tends to decrease over time (Klohnen and Bera 1998; Mickelson et al. 1997), which Fraley and Shaver hypothesize occurs because hypersensitivity to cues of rejection decreases in enduring relationships. These generalizations are consistent with Bowlby's concept of the internal working model as an interpersonal schema which is a perpetual "work-in-progress"—relatively stable but nonetheless open to change in the face of sufficiently salient and persistent new experiences.

Can IPT modify an internal working model? Although IPT has not historically included changes in attachment phenomena among its goals, it has recently been proposed as a potential treatment goal for IPT (see Stuart, this issue). In practice the tasks of IPT act to increase the experience of security in relationships. In particular, IPT aims to help patients communicate their needs and emotions more effectively. This can result in the positive experience of current needs being met and of interpersonal mastery.

IPT also enhances adaptive discrimination—for example, learning through experience that what was true 'then and there' in earlier relationships, is not necessarily so 'here and now' in current relationships. If such learning does not change the internal working model, it may at least interfere with the vicious cycle of interpersonal alienation in a manner which allows less frequent manifestation of maladaptive interpersonal behavior. Evidence from the longitudinal studies discussed above suggests that attachment anxiety might be more responsive to effective interpersonal interactions than attachment avoidance. Such a finding makes sense since attachment avoidance is less likely than attachment anxiety to decrease over time. Change in attachment avoidance depends on interpersonal interactions that disconfirm the predictions of the internal

working model, and these interpersonal events simply happen less frequently in avoidantly attached persons. In this regard it is interesting that the evidence suggests that attachment avoidance may interfere with treatment response in IPT, and yet also be open to modification through the process of therapy.

If the interpersonal specificity of IPT contributes to its effectiveness, then refinement of specific therapeutic strategies may further increase its effectiveness. We can consider tailoring our approach according to attachment patterns and interpersonal problems. For example, two individuals who both present with the IPT problem area of interpersonal disputes (non-reciprocal role expectations), but differ in their attachment and circumplex profiles, require different strategies to resolve their problems. An anxiously attached patient would be more affiliative than disengaging in his or her interpersonal pulls and would have a poor sense of interpersonal agency. The required therapeutic strategy would focus on appropriate assertiveness through clear, strategic communication of needs to the others who are most likely to be able to respond. Alternatively, an avoidant individual would be more interpersonally disengaging, expecting little of others. In this case, the clinical focus could be to decrease interpersonal distance, starting with the challenge of establishing and maintaining the therapeutic alliance.

Attachment and Contemporary Interpersonal Theories provide clinically helpful conceptualizations of interpersonal health and depression that are congruent with the therapeutic approach of IPT. Attachment Theory helps us to understand why patients, based on their developmental experiences, might engage in maladaptive, depressogenic interpersonal patterns. Contemporary Interpersonal Theory helps us to identify the consequent ineffective interpersonal behaviors and interpersonal impacts that fail to recruit or extinguish the interest of supports in times of need. The interpersonal circumplex can provide clinicians with a roadmap to interpersonal strategies that lead to differing interpersonal impacts, generating an experience of greater affiliation and agency though strategic trials of new interpersonal behaviors. This therapeutic sequence can break the vicious cycle of depression and replace it with an adaptive cycle of interpersonal health and mastery over the presenting problems. This can subsequently contribute to a lessening of interpersonal problems and an experience of improved security in relationships.

We have analyzed a clinical sample, which inevitably introduces heterogeneity and non-standardization that limit the conclusions that can be made. It is reassuring in this regard that concurrent use of antidepressant pharmacotherapy did not affect response rate. A further limitation is the lack of a comparison group, which prevents the inference that interpersonal changes are specific to IPT. Finally, our high treatment response rate raises the concern that the patients in this series are not representative of depressed persons in general. Although one might expect that a naturalistic study with less stringent controls than a controlled trial would have diminished effectiveness, we found the opposite. The high response rate may be due to self-selection for treatment, or to the selection bias introduced at the initial assessment when IPT is offered to patients who appear more ideally suited to the treatment (i.e., patients whose depression is clearly related to bereavement, role transitions or role disputes), or to similar selection criteria among referring professionals.

Clinically, attachment and contemporary interpersonal theories can enhance our understanding of patients and the delivery of IPT. We hypothesize that IPT improves attachment security, interpersonal agency and affiliative behaviors, which reduce depression. Further process research is needed to explore the inter-relationship of interpersonal change and symptom relief in the treatment of depression. It is hoped that this integration of theoretical, clinical and empirical perspectives of IPT will lend further support to this powerfully effective and pragmatic therapeutic approach.

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