A Pathway to Therapeutic Change: Changes in Self-representation in the Treatment of Adolescents and Young Adults

Ilan Harpaz-Rotem and Sidney J. Blatt

Processes that lead to normal development of the representations of self and others are also central to understanding processes of therapeutic change. In long-term, intensive, psychodynamically oriented, inpatient treatment of seriously disturbed, treatment-resistant adolescents and young adults, we found that changes in the level of differentiation-relatedness in patients' self-representation were primarily associated with changes in the level of differentiation-relatedness of their description of their therapist. A best-fit model indicated that change in the patient's description of the therapist and of a self-designated significant other outside the family added significantly to the explained variance predicting change in self-representation. Exploratory structural equation modeling also suggested that patients' growing recognition of the therapeutic relationship (measured by a more mature representation of the therapist) is associated with changes in the patients' overall level of clinical functioning. These results add further support to the importance of the therapeutic relationship in building more differentiated and integrated representations of self and of significant others.

Even though hundreds or even thousands of psychotherapy outcome research have been published, many questions remain about the nature of therapeutic change. Even with exemplary research methods available for studying psychotherapy outcome (i.e. Randomized Controlled Trials and pre-post designs), one can not yet answer the most intriguing questions: why and how treatment works? One of the most fundamental mysteries in psychotherapy research is that of understanding mediators of therapeutic change (Blatt & Zuroff, 2005; Kazdin, 2006; Sechrest, McKnight & McKnight 1996). More specifically, we need to understand some of the mechanisms and processes through which change occurs during the treatment process.

Previous research (Blatt, Stayner, Auerbach, & Behrends, 1996) demonstrated that changes in the developmental level of mental representations of mother, father, therapist and self, especially changes in the developmental level of the representation of a significant other that patients designated as important (Harpaz-Rotem & Blatt, 2005)

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correlated significantly with independent estimates of therapeutic change. Independent evaluation of the therapeutic change (as measured by ratings of clinical case records using the Global Assessment Scale, GAS) was significantly predicted by changes in the developmental level of the mental representation of the self and of the designated significant other. Changes in the representation of mother, father, and therapist did not add significantly to the explained variance of therapeutic change (Harpaz-Rotem & Blatt, 2005).

The centrality of changes in the representation of the self associated with changes in level of clinical functioning raises the question of exploring the factors that might contribute to therapeutic changes in the representation of the self in order to specify more precisely aspects of their role in the process of therapeutic change. Accordingly, the present investigation used changes in the developmental level of the representation of the self as the criterion of therapeutic change and investigated the relative contribution of changes in the representation of mother, father, therapist, and the designated significant other to changes in the representation of the self. We then investigated further the contributions of changes in the representation of the self to the process of improved clinical functioning. Better understanding of the factors that contribute to changes in representation of self and its role in the treatment process could provide fuller understanding of the mechanisms of therapeutic change in long-term, intensive, psychoanalytic-oriented inpatient treatment.

The processes that lead to normal development in the representations of self and others are central to understanding the processes of therapeutic change. Substantial theory and research have examined the role of early caregiving relationships in the development of representation of self and of others in normal and disrupted development (e.g., Ainsworth, 1969, 1982; Beebe, 1986, 1988; Blatt, 1991, 1995, 2008; Blatt & Lerner, 1983; Bowlby, 1969, 1973, 1988; Fonagy et al., 1995; Harpaz-Rotem & Bergman, 2006; Lichtenberg, 1983; Mahler et al., 1975; Main et al., 1985; Piaget, 1945; Stern, 1985).

The subtleties of the relational attunement between caregiver and infant in pattern of engagement and disengagement, in affect regulation in early months of life and in the establishment of patterns of attachment in the first year of life, contribute to the development of representation of self and others (Ainsworth, 1982; Beebe, 1988, Beebe & Lachman, 1991; Blatt, 2008; Bowlby, 1988; Gergely & Watson, 1996; Harpaz-Rotem & Bergman, 2006; Stern, 1985; Tronick, 1989, 1998). Contingent, and later non-contingent, responses of the caregiver to the infant's affective states (Gergely & Watson, 1996) create a dialectical interpersonal process of gratification and frustration, of disruptions and repair that are central to the development of the self (Beebe et al., 1997; Behrends & Blatt, 1985). Likewise, recent research (Barber et al., 1999, 2001; Klein et al., 2003; Wampold, 2001; Zuroff & Blatt, 2006) demonstrates the importance of the therapeutic relationship in the treatment process, across a range of different types of treatment (e.g., CBT, IPT, and medication). And as noted by Blatt & Behrends (1987), alternating experiences of gratifying involvement and experienced incompatibility in the therapeutic relationship appear to be a central dynamic in the treatment process.

Mental representations play a central role in cognitive, developmental and social psychology, and in psychoanalytic theory (Blatt, Auerbach & Levy, 1997). Research indicates that children construct their interactions with others, especially with primary caregivers, into cognitive-affective schemas of self and others. These schemas regulate and shape a wide range of behavior and feelings (e.g., Ainsworth, 1969, 1982; Beebe, 1986, 1988; Blatt, 1991, 1995; Blatt & Lerner, 1983; Bowlby, 1969, 1973, 1988; Fonagy et al., 1995; Lichtenberg, 1983; Mahler et al., 1975; Main et al., 1985; Piaget, 1945; Stern, 1985). Relatively satisfactory caring experi-

ences facilitate the development of constructive representations of self and others—of essentially positive introjects and a differentiated and cohesive identity (Blatt, 1974, 1991, 2004; Blatt & Blass, 1990, 1996; Blatt, Wild & Ritzler, 1975; Kernberg, 1975; Kohut, 1971; Sandler & Rosenblatt, 1962; Winnicott, 1965). Thus, mental representations reflect the individual's developmental level and such important aspects of psychic life as impulses, affects, drives, and fantasies (Beres & Joseph, 1970; Blatt, 1974; Blatt & Lerner, 1983; Sandler & Rosenblatt, 1962).

Self-representation develops primarily during infancy and early childhood through the dyadic exchanges with mother and other primary attachment figures (e.g., father and siblings). From adolescence onward, representation of the self are primarily transformed by, but not limited to, exchanges with significant others outside the family as adolescents increasingly turn to peers rather than parents for support and advice (Hazan & Zeifman, 1994). The ability to form stable relationships with others outside the family matrix during adolescence and early adulthood facilitate the development a more differentiated, integrated, and accurate representation of self. Several psychoanalytic investigators (e.g., Blatt & Blass, 1996; Blos, 1963, 1967; Geleerd, 1961; Hartmann, 1939; Mahler, Pine & Bergman, 1975; Settlage, 1970) stressed the importance of a change in attachment from the predominance of parental influence, to a relative disengagement from parents, to peers in adolescence. Blos and others, in fact, have labeled this process in adolescence as "the second individuation process."

Blos (1967), highlighting the similarities between rapprochement in infancy and adolescence, has pointed to the heightened vulnerability of personality organization and the importance of changes in psychic structure in both phases. According to Blos, adolescence involves disengagement from internalized infantile objects; the incapacity to separate from internal infantile objects in adolescence results in detachment, rejection, and subjective experiences of alienation. The significant association found in the capacity to represent a significant other with changes in level of clinical functioning in the long-term, intensive, inpatient treatment of seriously disturbed adolescents is consistent with the emphasis on the importance in adolescent development of establishing relationships with significant figures outside the family matrix (Harpaz-Rotem & Blatt, 2005).

The role of early interpersonal experiences in the construction of self-representation in normal development has important implications for the study of the change in self-representation during the course of therapy. In normal adolescent development, relationships external to the primary family play a crucial role in psychological development. The same processes may occur in psychotherapy with adolescents, in which the relationship with the new figure, the therapist, serves as a vehicle for changes in the representations of self. The therapist serves a transitional function in the detachment from infantile objects to attachment to a significant other outside the family matrix. Blatt and Behrends (1987) postulated that the mutative factors that facilitate change in the therapeutic context are the interchanges between "gratifying involvement" and "experienced incompatibility" (Behrends & Blatt, 1985), the same fundamental mechanisms that facilitate psychological growth during childhood and beyond.

Thus, the patient's capacity to develop a more mature and differentiated representation of self and significant figures during intensive psychotherapy appears to be contingent upon the therapist and patient's capacity to form a meaningful working relationship, and experiences of involvement and eventual disengagement with aspects of that relationship that facilitate the patient's internalization of aspects of that relationship (Blatt & Behrends, 1987).

To evaluate the hypothesis that a significant figure outside the family matrix is essential in the development of the self in the treatment process, we examined the factors

that contribute to changes in the representation of self during intensive, long-term, inpatient psychoanalytically oriented treatment in adolescents and young adults. We also examined the role of these changes in the representation of the self in changes in level of clinical functioning. Based on the theoretical formulations discussed above, we expected that the factors associated with changes in self-representation in treatment would primarily involve figures external to the family matrix (i.e., therapist and self-designated significant other), and that these changes in the representation of the self would moderate changes in level of clinical functioning. Auerbach and Blatt (1996, 1997) discussed the uniqueness of self-representation as compared to the representation of others and the potential contributions of changes in self-representation in the treatment process.

METHODS

Participants

Our sample consisted of 36 patients (15 males and 21 females) who had been hospitalized for at least 12 months in a long-term, intensive, inpatient treatment program for seriously disturbed, treatment-resistant adolescents and young adults. These patients had a mean age upon admission of 17.57 years (*SD* = 3.98) and a mean Full Scale IQ of 102.49 (*SD* = 15.21). At time of admission, these individuals carried a complex array of diagnoses, including conduct disorder, major depression with or without psychotic features, bipolar disorder, psychotic disorder NOS, schizophrenia, schizoaffective disorder, and severe personality disorders. All the patients had previously been in extensive outpatient therapy, and many had at least one, and sometimes several, brief psychiatric hospitalization prior to admission to our long-term, intensive, inpatient treatment unit.

The data were derived from interviews conducted at admission and every six months thereafter, until termination. During these interviews, individuals were asked to describe mother, father, a significant other, themselves, and their therapist. These descriptions were recorded verbatim by trained interviewers and evaluated by judges who had achieved acceptable levels of reliability in rating these descriptions. Additionally, data were obtained from the comprehensive inpatient case records routinely assembled periodically during the entire period of hospitalization. Comprehensive treatment evaluations prepared by the clinical staff at admission and at six-month intervals included reports by individual, group, family, occupational, and recreational therapists; nursing staff reports; school behavior and progress reports; and reports by patient ward group administrators.

All the patients who consented to participate in the study received similar multifaceted inpatient treatment comprising individual and group psychotherapy, each three times weekly; milieu therapy, including a privileges-level system based on behavioral contingencies; involvement in community responsibilities and tri-weekly community meetings; weekly family therapy; occupational and recreational therapy; and psychopharmacological evaluation and treatment. School-age patients also attended an accredited special school run by hospital staff and specially trained teachers. The treatment team included psychiatrists, psychologists, social workers, teachers, and occupational and recreational therapists.

Measures

1. The descriptions of mother, father, significant other, self, and therapist were evaluated using the Differentiation-Relatedness Scale (D-R). Drawing from theoretical formulations and clinical observations about very early processes of boundary articulation (Blatt & Wild, 1976; Blatt, Wild et al., 1975;

TABLE 1. Partial Correlation Between Self-Representation at Discharge and Independent Variables at Discharge, Controlling for Admission Level

Variable	D-R mother	D-R father	D-R therapist	D-R Sig. Other	SO (0 = peers; 1 = family)
D-R Self	.65*	.58*	.76*	.57*	-.38*

*$p < .05$.

Jacobson, 1964; Kernberg, 1975, 1976), processes of separation-individuation (Coonerty, 1986; Mahler et al., 1975), the formation of the sense of self (Stern, 1985), and the development of increasingly mature levels of interpersonal relatedness (Blatt & Blass, 1990, 1996), Diamond, Blatt, Stayner & Kaslow (1992) developed a 10-point scale to assess the degree of differentiation and relatedness in these descriptions. In general, higher ratings of differentiation-relatedness in descriptions of self and other are based on increased articulation and stabilization of self and object constancy and an increased appreciation of mutual, emphatically attuned relatedness.

The Differentiation-Relatedness Scale identifies the following 10 points: lack of basic differentiation between self and others (Levels 1 and 2); use of mirroring (Level 3), self-other idealization or denigration (Level 4); oscillation between polarized negative and positive attributes (Level 5) as maneuvers to consolidate and stabilize representations; emergent differentiated, constant, and integrated representation of self and other, with increasing tolerance for complexity and ambiguity (Levels 6 and 7); representations of self and other as empathically interrelated (Level 8); representations of self and other in reciprocal and mutually facilitated interactions (Level 9); and reflectively constructed integrated representations of self and other in reciprocal and mutual relationships (Level 10). For a full discussion of the D-R scale, please see Appendix 1.

2. Significant other (SO): We created a dichotomous variable which recorded the nature of the self-designated significant other. SO = 1 indicated that the participant has designated a family member as his/her most significant person; SO = 0 indicated that the participant has designated someone outside the family (e.g., peers or romantic partner).

3. Because the average subject was almost 18 years of age, we used the adult version of the Global Assessment Scale (GAS; Endicott et. al. 1976) to assess patients' overall clinical functioning as described in the narrative reports in the clinical case records at intake and termination. These GAS ratings were made by an experienced independent clinical judge (uninformed about the patients' descriptions of self, mother, father, therapist, and a significant other), from the comprehensive case records routinely prepared at admission and termination. This judge had previously achieved a high level of interrater reliability (ICC = .87) with another experienced clinical judge in making GAS ratings on clinical case records of a sample of chronically disturbed outpatients. The GAS provides a scale for assessing overall clinical functioning and severity of psychiatric disturbance based on 10 well-specified intervals ranging from a high score of 91 to 100 for "superior functioning" through midrange scores between 52 and 60 for "moderate symptoms generally functioning with some difficulty" to the lowest score interval between 1 and 10 for "needs constant supervision for several days to prevent hurting self or others, making no attempt to maintain minimal personal hygiene, or serious suicidal act with clear intent and expectations of death." Studies of the concurrent validity of GAS ratings indicated that they are comparable to ratings on the Mental Status Examination Record (Endicott et al., 1975; Newman, 1980) and the Psychiatric Status Schedule (Spitzer et al., 1970), as well as to evaluations based on interviews with family members. Ratings on the GAS have been found to be sensitive to the severity of psy-

TABLE 2. Multivariate Linear Regression Modeling Change in Self-Representation

Variable	Std. Coefficients Beta	*p* value	Model Adjusted R^2
D-R Mother	.06	$p = .77$	
D-R Father	.01	$p = .97$	
D-R Therapist	.44	$p = .02$	
D-R Sig. Other	.32	$p = .10$	
SO	.10	$p = .80$	.36

chiatric disturbance (Endicott et al., 1976) and are more sensitive to changes in patients' level of clinical functioning than either the Mental Status Examination Record or the Psychiatric Status Schedule. In four reliability studies, interraters reliability for the GAS ranged from .69 to .85 (Endicott et al., 1976; see Newman, 1980 for a discussion on the usefulness of global scales in outcome research).

Statistical Analyses

The associations between residual gain scores for D-R of the self-description and change scores for D-R mother, father and significant other and the binary SO category score were assessed by partial correlations, adjusting for the initial scores of each of these variables at admission (see Appendix 2 for rationale). Next the independent variables which had a significant ($p \leq .05$) association with the change score for D-R self were included in a multivariate regression model to assess their relative contribution to the prediction of change.

In contrast to the designated figures of mother, father, therapist, and self, the description of the significant other could be based on a family or non-family member. To better understand the association between changes in the D-R scores of the significant other, we differentiated between the D-R score for family or non-family members both at admission and discharge.[1] In conducting multivariate analysis to model the change in self-representation, the four D-R scores for the significant other (as either a family or a non-family member at admission and discharge) were used as independent variables.

To assess the factors that contributed to change scores for GAS, we then conducted an exploratory analysis using structural equation modeling (SEM) of the associations between identified significant variables and change scores for GAS. Please refer to Appendix 3 for detailed account for this analysis.

RESULTS

As presented in Table 1, change scores for D-R Self were significantly associated with change scores for D-R mother, father, therapist, and significant other. Designating peers or romantic partners rather than a member of the family as the significant other at discharge was also associated with higher levels of self-representation at discharge.

A simultaneous multivariate regression was conducted to evaluate the contributions of all the significant independent variables from the initial model to changes in the representation of the self. The results

1. Previously, we (Harpaz-Rotem & Blatt, 2005) had used a continuous scale (1-8) to designate changes from parental figures to other family members, to peers and eventually to romantic partners to assess this change in the designated significant other and found that this change was significantly associated with the independent estimate of therapeutic change. In this paper, however, to simplify these analyses, we examined change in the significant other by evaluating whether this change involved a shift from a family member to a person external to the family matrix.

TABLE 3. Backward Multivariate Linear Regression Modeling Change in Self-Representation

Variable	Std. Coefficient Beta	Significance	Model Adjusted R^2
Selected Variables			
D-R Therapist	.47	p =.005	
D-R Sig. Other	.34	p =.036	
Excluded Variables in order removed			
D-R Father			
D-R Mother			
SO			

indicate that change in the developmental level of representation (the D-R score) of the therapist was the primary variable associated with change in the developmental level (D-R) of the self-representation (see Table 2).

To amplify this finding, we reduced the confounding effects among independent variables in a backward multivariate regression analysis to identify the best-fit model associated with the change score for D-R self (Table 3). The final model indicates that change scores for D-R of therapist and of the designated significant other contributed significantly to the explained variance in the multivariate model predicting change in the developmental level of the self-representation. The change in the developmental level (D-R scores) of the descriptions of mother and father did not add additional significance to the explained variance in the model.[2]

Given the significant association between the change in D-R score of the description of the significant other and the D-R score of the description of self, and because the significant other score is comprised of both family and non-family members, we investigated further these associations to identify whether the D-R score of family or non-family significant other made the primary contributions to the change in D-R Self.

Thus, four D-R subscores were constructed for the description of the significant other: 1) the mean D-R score of family members designated as a significant other at intake; 2) the mean D-R score of peers/romantic partners designated as a significant other at intake; 3) the mean D-R score of family members designated as a significant other at discharge, and 4) the mean D-R score of peers/romantic partners designated as a significant other at discharge. Multivariate analysis was then conducted to model the change in self-representation between intake and discharge using these four D-R scores of the two significant other subgroups as independent variables. Self D-R scores at discharge were significantly associated only with the D-R scores of the designated significant other outside the family matrix (peers or a romantic partner) at discharge and not with the D-R score of the representation of family members (Table 4). These findings indicate that an increase in the developmental level of the self-representation during treatment is associated with progression in the level of representation of the therapist as well as the designation of a self-designated significant other outside the family.

Finally, an exploratory analysis using structural equation modeling was conducted

2. To further extend our use of stepwise model, we also ran two hierarchical regression models and found further support the original analysis. In the first model, the first block entered was D-R scores of therapist and significant other outside family. The second block was D-R scores of mother and father. There was no significant difference in R^2 between block one and two. In the second model, we entered the D-R scores of mother and father in the first block and in the second, the D-R scores of therapist and significant other outside the family. In this model there was a significant increase in R^2 between block one and two, indicating the significant role of figures outside the family in the transformation of self within a therapeutic context.

TABLE 4. Multivariate Regression Modeling Change in Self-Representation by D-R Significant Other by SO

Variable	Std. Coefficients Beta	*p* value	Model Adjusted R^2
D-R Self T1	.21	*p* =.22	
D-R Peers T1	.09	*p* =.72	
D-R Family T1	.42	*p* =.10	
D-R Peers T2	1.03	*p* =.01	
D-R Family T2	.72	*p* =.07	.32

to understand how the significant variables identified in this study contributed to improved clinical functioning as assessed by change scores for GAS ratings. Table 5 presents the correlations among these variables. The CALIS procedure of the SAS software package was used to estimate model parameters. The overall model fit was assessed by RMSEA and CFI. Path coefficients in this model are presented as standardized regression coefficients to facilitate their comparison across different paths. Figure 1 presents these path coefficients.

Because all possible paths were specified in this model, the goodness of fit index was perfect. A completely identified model is equivalent to a multiple regression model, and it only provides us with the statistical significance of the paths. The model's results, however, suggest that clinical outcome may be mediated by the change scores for D-R self and by change scores for D-R of undesignated significant other. Probably because of the relatively small number of subjects, the regression coefficient between changes in the representation of self and of clinical functioning was not statistically significant (p <.10). To achieve a more parsimonious model (high degree of fit with the estimation of as few parameters as possible), we next optimized the model using the CALIS SAS program, which suggested removing the direct path between therapist and clinical functioning. Thus, a second structural equation modeling was conducted to see how the model would reallocate the variance across paths. Figure 2 illustrates this second analysis.

The new model had a goodness of fit index of GFI = .98, a comparative fit index of CFI = .93 and RMSEA = .04. The parameter estimation, therefore, met the criteria for good fit. The new model provides additional support for the hypothesis that the effect of the changes in the representation of the therapist on clinical functioning may be mediated by the changes in self-representation. The overall model R^2 for clinical functioning remained unchanged, explaining approximately 50% of the model's shared variance. It is noteworthy that the strongest regression coefficients, in both models, were between the changes in the representation of self and that of the therapist.[3]

We considered an alternative theoretical model to test the assumption that change scores for D-R self, therapist, and significant others give rise to a latent variable--an overall construct change in patient's capacity for mentalization--that would be associated with the patient's overall adaptive functioning as measured by GAS. The goodness of fit indicators of this model (GFI = .98, a comparative fit index of CFI = .99 and RMSEA = .03) meet the criteria for good fit. As indicated in Figure 3, there was a slight increase in the R^2 for the change scores for GAS from the previous theoretical model (from .50 to .57). The strong correlation coefficient (.75) between

3. Because the total of 36 subjects in the present study is too small for structural equation modeling, these associations between changes in level of clinical functioning and the representation of therapist, self, and self-designated significant other needs to be replicated in subsequent investigation.

TABLE 5. Correlations Matrix of Changes in D-R Scores with Changes in Clinical Functions (GAS)

	DR-T	DR-SO	DR-Self	GAS
DR-Therapist	1	.43*	.46*	.49*
DR-SO	-	1	.54*	.60*
DR-Self	-	-	1	.59*

T = Therapist. SO = Significant Other. *$p < .05$.

the latent variable (changes in mentalization) and the change in GAS can be viewed partly as a consolidation of the correlation coefficients previously found to be associated with the changes in DR-Self (.40) and DR-significant other (.40) into a single construct.

DISCUSSION

Changes in the developmental level of patients' self-representation were significantly and positively associated with changes in the developmental level of description of therapist in the course of a long-term, psychodynamically oriented, intensive inpatient treatment of seriously disturbed, treatment-resistant adolescents and young adults. This association accounted for a substantially larger portion of the variance compared with the representations of mother, father, and a self-designated significant other. Moreover, multivariate stepwise regression analysis identified a best-fit model that indicated that beyond change in the developmental level of the therapist's representation, the representation of a self-designated significant other, specifically those who were outside the family matrix, added significantly to the explained variance predicting change in the scores for D-R self. This finding points to importance of a natural developmental maturation process as adolescents move toward establishing more mature and complex representations of significant others outside the family matrix.

These findings also add to accumulating evidence on the centrality of the therapeutic relationship in the process of therapeutic change (see also, for example, Norcross, 2002; Wampold, 2001; Zuroff & Blatt, 2006). These findings suggest that the therapist plays an important role in the treatment of disturbed adolescents by facilitating their developmental transition to relationships external to their primary family. Especially during adolescence and adulthood, the therapist serves as a transitional object in the complex move from relationships within the primary family to significant others outside the family. Self-representation develops primarily during infancy and early childhood through the dyadic exchanges with mother and others. But during adolescence, attachment to peers and ultimately to a romantic partner are central in the formation of more differentiated, integrated, and accurate representations of self and others that can provide greater stability in adult emotional and interpersonal life (Blatt & Blass, 1990, 1996).

Our findings also shed light on previous results (Harpaz-Rotem & Blatt, 2005) that failed to show a direct association between the developmental level (D-R) of the description of the therapist and treatment outcome as measured by GAS. The exploratory structural equation modeling presented in Figure 2 reveal new and more detailed information about the therapeutic process, suggesting that the therapist functions as a transitional object. The patient's growing capacity to form a mature representation of the therapist is linked to both the patient's capacity to form a more developed and accurate representation of the self and of significant others, preferably individuals outside the family matrix. Both these factors contribute to improved clinical functioning, as measured by changes in GAS scores. Thus the therapist has the po-

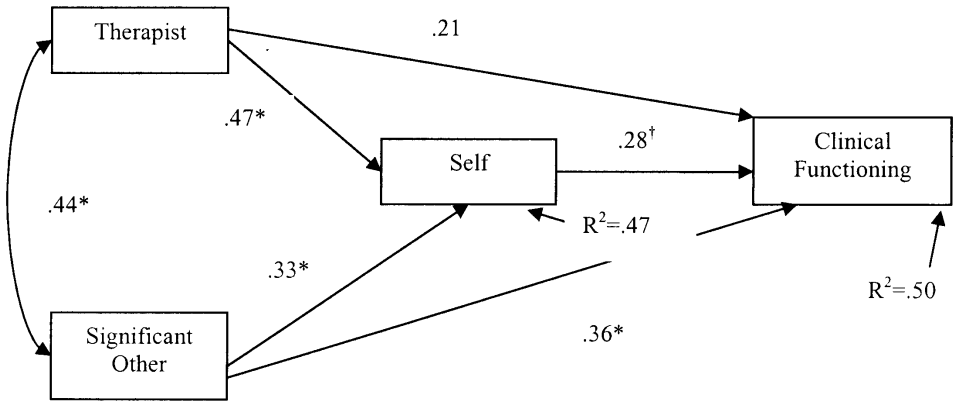

FIGURE 1. Change in Clinical Functioning Model 1.
*$p < .05$; †$p < .1$.

tential to provide a unique relationship that creates a supportive context as well as a basis that facilitates the patient moving beyond childhood attachments and developing more gratifying involvements with individuals external to the family. The therapeutic relationship provides a gratifying involvement with a transitional object that is an essential step in the desire to move to more mature relationships. However, these findings should be interpreted cautiously because they are based on an exploratory structural equation model using a relatively small number of subjects and it is recommended that these pathways be explored further with both a larger research sample and different populations.

Our findings also suggest an alternative theoretical model of therapeutic change. The third structural equation model explored in this study (as illustrated in Figure 3) suggests that therapeutic change may be associated with observed change in the patient's capacity for mentalization as expressed in changes in the representation of self, therapist, and significant others (see also Fonagy et al., 2002). More specifically, this model explores an alternative, non-sequential pathway for change in clinical functioning in the course of long-term intensive inpatient treatment. This model suggests that during adolescence and young adulthood changes in the level of the representation—specifically those of self, therapist, and significant others out-side the family, which may be comprised by an overall capacity for mentalization or representation—are major contributors to changes in clinical functioning. However, due to the limited sample size, it is not possible to designate any one model as superior. Again, further research is neede with a larger sample that would also allow for the inclusion of changes in D-R scores of both mother and father to more fully evaluate these alternative hypotheses.

This study highlights the unique and central role of patients' representations of the therapist in the treatment process. Blatt, Auerbach, and Behrends (2008) recently demonstrated, with a vivid clinical example, how the therapeutic progress with seriously disturbed, treatment-resistant patients involves the resolution of aspects of disruptive pathological introjects that are enacted in the transference and the "internalization of new

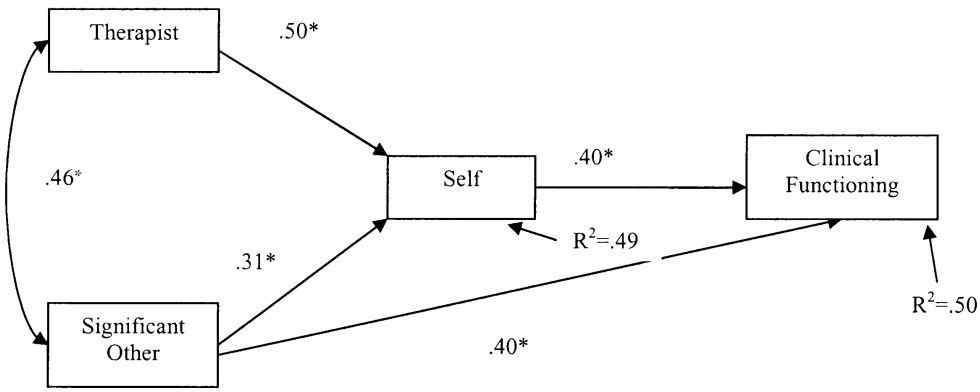

FIGURE 2. Change in Clinical Functioning Model 2.
*$p < .05$.

psychic structures, revised representations of self and others … which emerge in the relationship with the therapist."

Limitations of this study should be noted. The findings in this study are based on long-term, intensive, inpatient treatment of a relative small sample (n = 36) of seriously disturbed, treatment-resistant, adolescents and young adults with complex co-morbid diagnoses, particularly severe personality disorder with depression and conduct disorder. Thus it is unclear if these findings can be generalized to other clinical populations and to normal development. Second, a sample size of 36 patients is insufficient for SEM, and thus the results reported in this paper based on the use of the structural equation modeling should be considered as only exploratory findings that await further research to confirm the pathways identified in this paper.

But given the initial severity of the disturbances in the patients studied in this investigation, the extent and nature of their therapeutic gain in this treatment program is impressive. Because these patients had extensive previous treatment without substantial constructive effects, their improvement in the long-term, psychodynamically oriented treatment program evaluated in this report probably cannot be attributed to spontaneous recovery (Blatt, Berman, Cook, & Ford, 1998). While this type of long-term intensive inpatient treatment is far from the norm in contemporary clinical practice, increasing evidence (Blatt, 1992; Blatt, Auerbach, & Aryan, 1998; Blatt & Ford, 1994; Blatt & Shahar, 2004; Blomberg, Lazar, & Sandell, 2001; Blomberg & Sandell, 2004; Fonagy et al., 1996; Gabbard et al., 1994; Sandell et al., 2000; Waldinger and Gunderson, 1984) demonstrates the value of this type of treatment for seriously disturbed, treatment-resistant patients. Future research needs to address the generality of these findings with different types of patients in different types of treatment programs and with larger samples which would have greater statistical power.

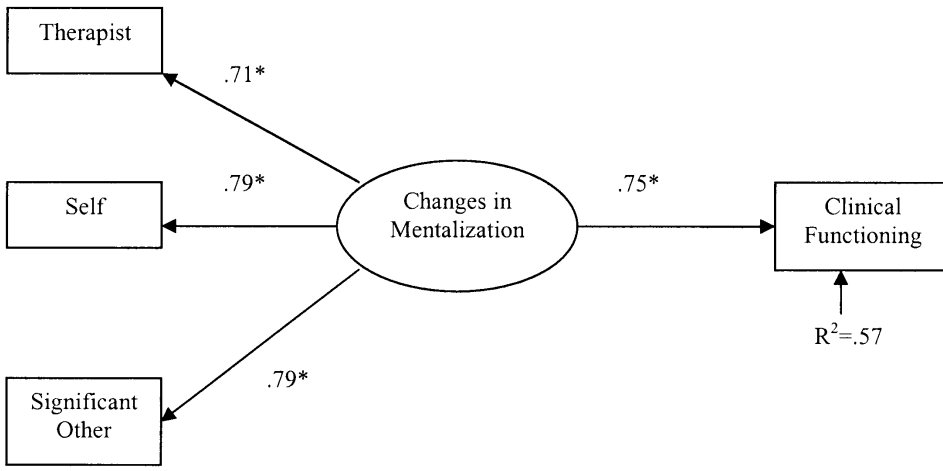

FIGURE 3. Therapeutic Change and Clinical Functioning Model 3.
*$p < .05$.

APPENDIX 1

The D-R Scale

This scale is based on the assumption that psychological development moves toward the emergence of (a) a consolidated, integrated, and individuated sense of self-definition and (b) empathically attuned, mutual relatedness with significant others (Aron, 1996; Benjamin, 1995; Blatt, 1991, 1995; Blatt & Blass, 1990, 1996; Blatt & Shichman, 1983; Jordan, 1986; Miller, 1984; Mitchell, 1988; Stern, 1985; Surrey, 1985). Differentiation and relatedness are viewed as dimensions that emerge in a developmental unfolding. The dialectical interaction between these two dimensions, or developmental lines, facilitates the development of increasingly mature levels of both self-organization and reciprocally attuned, empathic relatedness.

In regard to the dimension of differentiation, the scale reflects, at the lowest levels, the compromise of boundaries related to basic body awareness, emotions, and thoughts. Subsequent levels reflect a unitary, unmodulated view of self and of others as extensions of each other or as mirrored images (i.e., images in which aspects of self and other are identical). At an intermediate level, representations are organized around a unitary idealization or denigration of self or other (i.e., around an exaggerated sense of the goodness or badness of the figure described). At the next level, these exaggerated aspects of self and other alternate in a juxtaposition of polarized (i.e., all good or all bad) extremes. Later scale levels reflect both an increasing capacity to integrate disparate aspects of self and other and an increased tolerance for ambivalence and ambiguity (Kernberg, 1977).

The scale also reflects a trend toward empathically attuned mutuality in complex interpersonal relationships. At lower levels, the sense of relatedness in representations may involve being controlled by the other (e.g., trying to resist the onslaught of another who is experienced as bad and destructive). At

increasingly higher levels, relatedness may be expressed primarily in parallel interactions, in expressions of cooperation and mutuality, in understanding the other's perspective, or in expressions of empathically-attuned mutuality (Blatt & Blass, 1990, 1996). At the highest levels, descriptions will reflect a sense of one's participation in complex relational matrices that determine perceptions, attributions, and constructions of meaning.

Interraters and retest reliability of this scoring procedure is at acceptable levels (Stayner, 1994), and early reports support the validity of this scale as a measure of differentiation and relatedness (e.g., Blatt et al., 1996; Diamond et al., 1990, 1992; Vermote, 2005).

APPENDIX 2

The Use of Change Scores

Considerable discussion has been directed toward identifying the most appropriate statistical procedures for evaluating change. One of the major contributions in this discussion (Cronbach & Furby, 1970) questioned the use of change scores because the repeated use of a measure compounds the unreliability of the measure. Cronbach and Furby recommended instead the use of MANOVA or residual gain scores as alternative statistical procedures. Rogosa (1988) and Rogosa and Willett (1983), however, questioned Cronbach's assumption about the potential unreliability of pre- and post-change scores and recommended the use of difference scores. We decided to follow Rogosa's recommendations because our sample was relatively small and to follow the procedures recommended by Cronbach and Furby (1970), our model would have had to include 9 independent variables (compared to 4 change scores), thereby markedly reducing the power of our analyses to detect significant correlations. Following the recommendations of Rogosa (1988), we used standardized change scores.

APPENDIX 3

Exploratory Structural Equation Modeling (SEM)

These analyses, however, should be considered as exploratory because the limited sample size of 36 subjects is too small for the reliable use of structural equation modeling to examine the casual associations between the representation of therapist, self, self-designated significant other, and clinical functioning.

The CALIS procedure of the SAS software package was used to estimate model parameters. Statistically, the adequacy of a model can be judged from its fit. Fit refers to the extent to which the values estimated by the model correspond to the actual values in the data set. In the extreme, where the maximum number of parameters is estimated, fit by necessity is perfect and therefore meaningless. What is desirable, therefore, is to achieve a high degree of fit with the estimation of as few parameters as possible. In this way, the parsimony of the model is optimized. Derivation of indices of fit remains an active area of statistical controversy. Because of the lack of consensus concerning the superiority of any one index, we have selected two indices which capture different aspects of the fit. Thus, the overall model fit was assessed by the root mean square of approximation (RMSEA; Steiger, 1980) and Bentler's (1990) comparative fit index (CFI). Path coefficients are presented as standardized regression coefficients to facilitate their comparison across different paths.

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