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Attachment Style Changes Following Intensive Short-term Group Psychotherapy,
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Estimated Time to Complete this Activity: 90 minutes

Learning Objectives:

The reader will be able to:

1. Describe briefly the nature of attachment and how it is typically assessed.
2. Summarize research findings examining change in attachment style following psychotherapy.
3. Discuss how attachment-related variables may affect the therapeutic climate and outcomes in psychotherapy.

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Jacqueline L. Kinley, Nothing to Disclose

Sandra M. Reyno, Nothing to Disclose

Attachment Style Changes Following Intensive Short-term Group Psychotherapy

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ABSTRACT

In this study, we examined changes in attachment style as measured by the Relationship Scales Questionnaire before and after six weeks of intensive group psychotherapy. We also investigated whether changes in attachment style were associated with changes in interpersonal functioning. Results indicated that participants showed increases in secure attachment and decreases in fearful attachment and, to a lesser degree, preoccupied attachment styles. Change was not found in the dismissive attachment style. Changes in Secure and/or Fearful (but not Preoccupied) attachment styles were related to changes in interpersonal functioning on seven of the eight subscales of the Inventory of Interpersonal Problems. Overall findings suggest intensive group psychotherapy programs show promise for reducing attachment pathology and improving interpersonal functioning. Assessing differential responsiveness to psychotherapy may help us align our interventions to better address differing attachment styles through modifications in focus and approach.

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In an earlier version of this research, Dr. Anthony Joyce (Clinical Professor, Department of Psychiatry, University of Alberta) and Dr. Jaime Williams (Postdoctoral Fellow in Psychology, Centre on Aging and Health, University of Regina) contributed significantly. The results of this previous manuscript are unpublished, although the current paper utilizes and builds upon this work. The authors would like to thank Drs. Joyce and Williams for their intellectual contributions.

Attachment theory, developed primarily by Bowlby (1969), can be described as a framework through which observable differences in how people function within relationships can be understood. Beginning in infancy within the context of the primary caregiving relationship, children learn specific ways of relating to themselves and others through, first, interactive, and, later, internalized self regulation of their emotional responses (Bowlby, 1988; Duquette, 2010). These interactions are said to result in the emergence of an internal working model of relationships (Bowlby, 1988). The quality and success or *security* of early attachment is paramount in influencing neurobiological responses and, ultimately, a range of behavioral responses contributing to mental and physical well-being. Insecure attachments develop when individuals perceive their primary caregiver as inconsistent, unpredictable, rejecting and/or punitive, with the extent of difficulty or *insecurity* in the early attachment relationship relating to the degree of compromise in later interpersonal functioning (Ainsworth, Blehar, Waters, & Wall, 1978; Schore, 1994).

Some of the more commonly used measures designed to assess adult attachment patterns are interview-based categorical or self-report dimensional classification systems. These include the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985), the Relationship Scales Questionnaire (RSQ; Bartholomew & Horowitz, 1991), and the Experiences in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998). The AAI assesses early relationships and identifies four major patterns of adult attachment: secure/autonomous, dismissing, enmeshed/preoccupied, and unresolved. The first three patterns parallel the secure, avoidant, and anxious/resistant patterns originally identified by Ainsworth and colleagues in their study of attachment in childhood (Ainsworth et al., 1978). Using the RSQ, Bartholomew and Horowitz (1991) further differentiated the avoidant style into fearful and dismissing types, while Brennan and colleagues developed a dimensional model of attachment (Brennan et al., 1998) whereby varying degrees of anxiety and avoidance are considered to characterize most adult attachment patterns.

Attachment style (i.e., one's view of the self and other) is thought to be relatively enduring, influencing interpersonal re-

lationships throughout the lifespan (Bowlby, 1988; Hamilton, 2000; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Bowlby (1988) suggested cognitive-affective representations of self, other, and self/other established by early attachment experiences continue to influence adult relationships, and attachment styles remain stable should the caregiving environment continue to support these mental representations. These working models are thought to regulate how individuals interpret and cope with stressful situations. Bowlby's model also suggests that events and circumstances may alter attachment relationships and representations over time (Bowlby, 1988). Research findings provide support for both stability and discontinuity in attachment styles through the lifespan, with discontinuity associated with a number of child, parent, and family variables, including difficult child temperament, child maltreatment, maternal life stress, parental psychiatric disorder, family functioning, and negative life events (Hamilton, 2000; Waters et al., 2000; Weinfield, Whaley, & Egeland, 2004).

Clinically, attachment style has been found repeatedly to be important for psychotherapy process and outcome (Travis, Bliwise, Binder, & Horne-Moyer, 2001). Researchers have examined the role of the therapist as an attachment figure and the patient's attachment style as a mediator of psychotherapy process, with attachment style shown to predict a patient's ability to engage in psychotherapy, the course of therapy, and the quality of the patient-therapist relationship (Byrd, Patterson, & Turchik, 2010; Daniel, 2006). More specifically patients who are more securely attached tend to have a stronger therapeutic alliance, subjectively feel more attached to their therapist, and self-disclose more (Diener, Hilsenroth, & Weinberger, 2009; Saypol & Farber, 2010). A recent meta-analytic review found that client attachment style contributes a small to medium effect to therapeutic outcomes, with secure attachment predicting positive outcomes, attachment anxiety predicting worse outcomes, and avoidant styles showing a negligible effect (Levy, Ellison, Scott, & Bernecker, 2011).

Attachment-related variables have also been found to affect the therapeutic climate and outcomes in group psychotherapy (Kirchmann et al., 2009; Rom & Mikulincer, 2003). Schechtman & Dvir (2006) found that securely attached children display

higher rates of self-disclosure, productive behavior, and responsiveness to group members, whereas children with avoidant attachment styles show the lowest scores on measures of these variables. Kirchmann and colleagues (Kirchmann et al., 2009) found that attachment security predicted group cohesion for individuals participating in group-based Interpersonal-Psychodynamic Therapy, with group climate associated with greater symptom reduction and improved interpersonal functioning. In this study, group cohesion was identified as the most important therapeutic factor for individuals with attachment anxiety, while interpersonal learning experiences appear more important to securely attached individuals, and perceived acceptance by and emotional presence of therapist more valued by individuals with avoidant attachment styles. Overall research findings suggest attachment pattern may differentially influence therapy outcomes via mediating variables such as the therapeutic alliance engagement, therapeutic approach, and group cohesion.

Although a great deal of research has been conducted on attachment styles, only a handful of investigations have examined *changes* in adult attachment style as a result of psychotherapy and how these changes may affect outcome on other relevant variables, such as interpersonal functioning. The scarcity of such studies may be due to the well-accepted theoretical stability of the construct, which has been supported through numerous empirical investigations (e.g., Bartholomew & Scharfe, 1994; Hamilton, 2000; Kirkpatrick & Hazan, 1994). However, there has been increasing attention to the tenet that adult attachment style can change as internal working models accommodate new information from current life circumstances and interpersonal experiences (Bowlby, 1988).

Fonagy and colleagues (1996) were the first to examine changes in attachment style following therapy. In this study, none of the borderline patients assessed with the AAI fell in the securely attached category prior to long-term psychodynamic psychotherapy, while 40% were considered securely attached post-intervention. Kilmann and colleagues (1999) examined attachment style before and after attachment-focused group-based psychotherapy (as well as at six-month follow-up), comparing 13 college students

(non-clinical sample) who underwent the intervention to 13 wait-list controls. Those in the attachment-focused group endorsed less fearful and more secure attachment patterns following treatment compared to controls. Those endorsing a fearful-avoidant pattern at pre-treatment showed the greatest gains in attachment security. Levy and colleagues (2006) found a significant increase in the number of individuals with borderline personality disorder categorized as securely attached following participation in transference-focused group psychotherapy, but not a dialectical behavioral or psychodynamic supportive group. Changes in attachment style have also been examined in binge eating women participating in group-based cognitive-behavioral or psychodynamic-interpersonal therapy for depression (Tasca, Balfour, Ritchie, & Bissada, 2007). In this study, significant change in attachment anxiety occurred for both groups; however, attachment style change was only related to decreased depression in the psychodynamic group. Kirchmann and colleagues (2012) attributed increases in attachment security following inpatient group psychotherapy (psychodynamic or CBT) to a decrease in attachment anxiety/ambivalence as measured with categorical or dimensional measures of attachment. Attachment-related changes were more pronounced in individuals with higher levels of depression and attachment anxiety at pre-treatment; however, attainment in attachment security following treatment did not reach the level of controls. Overall, existing studies suggest attachment patterns may improve following participation in psychotherapeutic intervention, with the most pronounced treatment affects for anxious/ambivalent attachment and attachment security.

PURPOSE AND HYPOTHESES

The purpose of this investigation was to examine changes in patient attachment style in an acute clinical population with severe Axis II psychopathology, before and after an intensive, group-oriented Day Treatment Program (DTP). It was generally hypothesized that attachment style changes would follow participation in the program. Specifically, we anticipated secure attachment style would increase, while fearful, preoccupied, and dismissive attachment styles would decrease. We also hypothesized that changes

in attachment style would be associated with improvements in interpersonal functioning.

METHOD

Participants

Participants included patients admitted to a DTP at the Queen Elizabeth II Health Sciences Centre in Halifax, Nova Scotia. Most patients entering the Mental Health DTP have already had extensive psychotherapy of various orientations, multiple hospitalizations, or are in the midst of a deep personal crisis in which symptoms are overwhelming. All patients admitted into this DTP between August 2008 and September 2010 were invited to participate. Referrals to the DTP are triaged based on acuity. Inclusion criteria for admission include: (1) stable accommodation, (2) ability to identify treatment goals, (3) no active substance use, and (4) the capacity to benefit from the program as determined by a detailed observational assessment of the psychological readiness of the patient to engage in intensive psychotherapy. Approval from the local research ethics board at Capital District Health Authority, Halifax, was obtained, and all study participants signed informed consent prior to participation. Participants were informed that their participation in no way affects the care they will receive. One hundred and seventy-eight patients consented to participate and completed the first questionnaire battery prior to engaging in treatment. One hundred and forty-five finished the second questionnaire battery at the end of their treatment, comprising a response rate of 81%. This constitutes a treatment dropout rate over the data collection period of 19%, which compares favorably with similar programs (e.g., Arnevik et al., 2009; Bateman & Fonagy, 1999; Karterud et al., 2003).

Demographically, most of our participants: were female ($n = 132$, 74%); had prior treatment ($n = 130$, 73%); had prior hospitalization ($n = 106$, 60%); and were not working due to unemployment ($n = 44$, 25%) or medical leave ($n = 83$, 43%). Marital status was split between those who were married or living common law ($n = 72$, 41%), single ($n = 62$, 35%), or separated, divorced, or widowed ($n = 43$, 24%). Pre-treatment diagnoses were

determined based on *DSM-IV-TR* (American Psychiatric Association, 2000) criteria using a semi-structured interview completed by two psychiatrists. Patients demonstrated significant pathology and morbidity. Mood disorders were the most common Axis I diagnosis with 91 (51%) participants having a Major Depressive Disorder or Dysthymia and 14 (8%) identified as having Bipolar Disorder. Forty-one participants (23%) were diagnosed with an adjustment disorder. Anxiety disorders were also common, with 30 participants (17%) having this diagnosis. Twenty-seven participants (15%) had a history of a substance-related disorder. Forty-one participants (23%) were identified as having more than one Axis I disorder. Most participants ($n = 117$, 66%) were diagnosed with Cluster B Axis II pathology. Of these individuals, 75 (42% of total sample) had Borderline Personality Disorder or traits. One hundred participants (56%) had Cluster C pathology or traits. Thirty-nine participants (22%) had a diagnosis or traits from both Clusters B and C.

Measures

The Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994) was used to measure attachment style. This is a self-report measure consisting of 30 statements that participants rate on a five-point Likert-type scale, ranging from 1 = "not at all like me" to 5 = "very much like me," to indicate their characteristic style in close relationships (Griffin & Bartholomew, 1994). Although the RSQ can be scored to reflect different models of attachment (e.g., Hazan & Shaver, 1987), in this investigation we opted to use Griffin and Bartholomew's (1994) original model of attachment upon which the RSQ was developed. This cross-classifies two underlying dimensions, self (positive or negative) and other (positive or negative), in order to describe four attachment styles: Secure (positive self/positive other); Preoccupied (negative self/positive other); Fearful (negative self/negative other); and Dismissing (positive self/negative other) (Bartholomew & Horowitz, 1991). Dimensional scores are derived for the four attachment patterns by averaging various items (five items comprise the Secure style; four items comprise Preoccupied; four items comprise Fearful; five items comprise Dismissing). Alphas for

the four attachment styles identified by Griffin and Bartholomew (1994) ranged from .41 for the Secure scale to .70 for the Dismissing scale. The internal consistencies of the RSQ can be low as orthogonal dimensions (model of self and others) are combined to create each attachment style (e.g., secure attachment reflects positive self-model and positive other-model dimensions). The RSQ has been demonstrated to have adequate convergent and divergent validity (Griffin & Bartholomew, 1994). Moderate to high test-retest reliability and stability over an eight-month period has been reported (Scharfe & Bartholomew, 1994).

The Inventory of Interpersonal Problems (IIP; Horowitz, Alden, Wiggins, & Pincus, 2000) was used to measure interpersonal functioning. The IIP is a self-report instrument designed to assess problems in interpersonal interactions that are either reflected by difficulties in executing particular behaviors or in exercising restraint. The IIP has strong psychometric properties and is one of the most frequently used instruments in psychotherapy outcome research. The short version (32-item; IIP-32), based on the circumplex model (Horowitz et al., 2000), contains eight subscales (Domineering/Controlling; Vindictive/Self-Centered; Cold/Distant; Socially Inhibited; Non-Assertive; Overly Accommodating; Self-Sacrificing; Intrusive/Needy), which have good internal consistency and test-retest reliabilities (Horowitz et al., 2000).

Procedure

The DTP is a clinical program providing six weeks (4 days per week) of intensive, partial hospitalization treatment for individuals diagnosed with significant DSM Axis II pathology in the context of Axis I co-morbidity. The treatment is a manualized group-based intervention involving a weekly complement of eight groups, serving approximately 16 patients at any given time. All group members are required to attend all the same groups together and to complete the entire program. The groups are based on various orientations, but are designed to function together to mobilize, access, and work through painful emotions, increase self-awareness, improve interpersonal relationships, develop and enhance coping skills, challenge dysfunctional thinking, increase overall functioning, and prevent future relapse. The

content or skill-based groups are focused on conscious material/skill development and symptom management and include anxiety management, stress reduction, relationships/boundaries, assertiveness training, goal setting, physical activity, and leisure. The program also includes a dynamically oriented process group designed to assist patients in working through core conflictual feelings and unconscious drives. Patients learn to experience feeling directly rather than defend against emotions using characteristic defenses. Rolling group admissions ensure that each group includes participants at all stages of development (e.g., engagement, differentiation, individuation, intimacy, mutuality, and termination) (MacKenzie & Livesley, 1984).

The program is ultimately designed to promote psychological integration and thereby increase resilience. The theoretical orientation of the program is primarily psychodynamic; however, it is best described as *integrative* and *systemic*, with an aim to synthesize the various components into a cohesive system using an integrated systems approach based on psychotherapeutic and milieu principles (Williams et al., 2010). The team's conceptualization of dysfunction focuses on attachment, whereby neglect or violation of early attachment needs gives rise to psychological distress and dysfunction. Treatment emphasizes developing healthy attachment security. Each patient is assigned a case coordinator from a multidisciplinary team who facilitates groups and manages individual work (primarily related to the process or "feelings" group). Treatment work is designed in phases corresponding to current presentation. In patients with severe pathology, cognitive re-structuring and behavioral control (*front end work*) occur first to establish the emotional containment necessary for core emotional processing to proceed. The second phase of treatment involves working through primitive feelings associated with early attachment trauma, including overcoming resistance to experiencing emotions, learning to differentiate emotions, developing awareness of characteristic defenses, and encouraging insight. This is followed by the final phase of treatment (consolidation). In this phase, constructionist techniques (*back end work*) are employed to assist the patient to integrate and reconstruct a healthier, fluid, adaptive, and autonomous sense of self. Concrete tools and skills for change are provided to address problematic patterns of think-

ing, feeling, and behaving that have developed in response to original trauma. Program outcomes have been previously evaluated in a pre- and post-test design, showing significant reduction in psychiatric symptoms, improved assertiveness, social functioning, and management of stress (Howes, Haworth, Reynolds, & Kavanaugh, 1997).

Study participants were asked to complete the self-report questionnaires (described above) during their first week of the six-week program and again during their final week in the intervention. The questionnaires took approximately 10 minutes to complete, and participants were given time during the program to do so.

RESULTS

In order to determine whether there were systematic differences between those participants who completed the second set of questionnaires ($n = 145$) and those who did not ($n = 33$), comparative analyses were conducted on demographic variables as well as on scores from the pre-program measures. One independent sample *t*-test (age in years) and five chi-square tests (sex, employment status, marital status, prior treatment, and prior hospitalization) were conducted on the demographic variables. None of these comparisons was significant at the $p < .01$ level. Four independent sample *t*-tests were conducted on the measures of attachment and eight on measures of interpersonal functioning. None of these comparisons was significant at the $p < .01$ level. Patients who dropped out of the program were thus not found to differ from patients who completed treatment and provided both pre- and post-treatment data.

The average number of group members attending daily was 11.58 ($SD\ 2.03$). A "percentage of group change index" (PGCI) was calculated to characterize change in group composition over time. This index was calculated as follows: $1 - [\# \text{ of members who remained the same from the previous day}] / [\# \text{ of members who remained the same from the previous day} + \# \text{ of members missing from the previous day} + \text{the number of members missing}] \times 100$. The mean daily PGCI was 14.9 ($SD\ 9.79$) with a range of 0–34.

To test whether patients' scores on the RSQ and IIP changed from before to after treatment, we used two repeated-measures (time, two levels) multivariate analyses of variance (MANOVA; Tabachnick & Fidell, 2007) in which the outcome variables were the four RSQ and eight IIP subscale scores, respectively. Means and standard deviations of the pre- and post-treatment measures are presented in Table 1, along with the results of the MANOVA analyses. A significant difference was found for the omnibus test for both MANOVA analyses. Results of corresponding repeated-measures univariate analyses of variance revealed a statistically significant change on all IIP scale scores at post-treatment. These analyses also revealed a statistically significant increase on the RSQ Secure subscale score and significant decreases on the Preoccupied and Fearful subscale scores. The effect sizes for the Secure and Fearful subscales were .27 and .26, respectively, reflecting a moderate effect. The effect size was only .08 for the Preoccupied subscale, reflecting a small effect. The repeated-measures ANOVA for the Dismissing subscale was not found to be significant.

Correlations between RSQ residualized gain scores (Cronbach & Furby, 1970), for subscales exhibiting significant change following treatment (i.e., Secure, Fearful, and Preoccupied scales), and IIP subscale residualized gain scores can be found in Table 2. A Bonferroni-adjusted alpha of .006 (.05/8 comparisons) was used for determining statistical significance when examining correlations between RSQ and IIP residualized gain scores. One-tailed tests were used as directional predictions were made a priori. Change on the Secure subscale was significantly associated with change on most of the IIP subscales (all IIP subscales except Intrusive/Needy), with significant correlation coefficients ranging from $r(143) = -.22$ to $r(143) = -.37$. Change on the Fearful Subscale was significantly associated with change on six of eight IIP subscales (all except Vindictive/Self-Centered and Intrusive/Needy), with significant correlation coefficients ranging from $r(143) = .22$ to $r(143) = .45$. Change on the Preoccupied subscale was not significantly associated with change on the IIP scales.

We also calculated reliable change indexes (Jacobson & Truax, 1991) for each RSQ and IIP subscale to determine the number of participants classified as improved, unchanged, or deteriorat-

Table 1. Residualized Gain Scores for Measures Assessing Interpersonal Functioning and Attachment and MANOVA Findings

	Pre-treatment	Post-treatment	Residualized Gain	F values	Effect size (Partial η^2)
	Mean (SD) N = 178	Mean (SD) N = 147	Score ¹ (SD) N = 145		
Inventory of Interpersonal Problems					
Dominieering/Controlling	1.08 (.98)	.79 (.90)	-.22 (.79)	$F(8, 137) = 22.96^{***}$	.57
Vindictive/Self-Centered	1.33 (1.16)	.90 (1.05)	-.39 (1.05)	$F(1, 144) = 11.37^{**}$	.07
Cold/Distant	1.81 (1.06)	1.11 (1.04)	-.71 (.97)	$F(1, 144) = 20.10^{***}$	.12
Socially Inhibited	2.37 (1.15)	1.44 (1.04)	-.79 (.93)	$F(1, 144) = 296.08^{***}$	.35
Non-Assertive	2.54 (1.06)	1.74 (1.02)	-.70 (1.10)	$F(1, 144) = 78.05^{***}$	.42
Overly Accommodating	2.64 (1.06)	1.73 (.92)	-.87 (.99)	$F(1, 144) = 59.28^{***}$	.29
Self-Sacrificing	2.58 (1.06)	1.83 (1.00)	-.71 (.97)	$F(1, 144) = 111.16^{***}$	.44
Intrusive/Needy	1.41 (1.10)	1.07 (.87)	-.25 (.71)	$F(1, 144) = 78.96^{***}$	.35
Relationship Scales Questionnaire					
Secure subscale	2.38 (.65)	2.86 (.72)	.75 (1.23)	$F(1, 144) = 18.33^{***}$	.11
Fearful subscale	3.76 (.86)	3.23 (.98)	-.61 (1.02)	$F(4, 141) = 19.63^{***}$	.36
Preoccupied subscale	3.14 (.87)	2.91 (.78)	-.25 (.88)	$F(1, 144) = 54.25^{***}$	.27
Dismissing subscale	3.48 (.76)	3.46 (.65)	-.03 (.93)	$F(1, 144) = 51.68^{***}$	.26
				$F(1, 144) = 12.05^{**}$	.08
				$F(1, 144) = .19$	.001

Note. The Secure subscale of the RSO is oriented positively (i.e., higher scores are more favorable). Residualized Gain Scores = $(x_s - x_i)/SD_{\Delta}$. *** $p < .001$. ** $p < .01$. * $p < .05$.

Note. The Secure subscale of the RSQ is oriented positively (i.e., higher scores are more favorable). ¹Residualized Gain Scores = $(x_2 - x_1)/SD_{x1}$. ** $p < .01$. *** $p < .001$.

Table 2. Correlations Between RSQ and IIP Residualized Gain Scores

Scale	RSQ Secure	RSQ Fearful	RSQ Preoccupied
IIP D/C	-.268**	.222**	.031
IIP V/SC	-.247**	.134	-.056
IIP C/D	-.263**	.222**	-.082
IIP SI	-.222**	.342***	.044
IIP NA	-.370***	.447***	.162*
IIP OA	-.354***	.428***	.152*
IIP SS	-.275***	.231**	.178*
IIP I/N	-.070	-.024	.088

Note. Bonferroni-adjusted alpha indicated in bold. IIP D/C = Inventory of Interpersonal Problems Domineering/Controlling, IIP V/SC = Inventory of Interpersonal Problems Vindictive/Self-Centered, IIP C/D = Inventory of Interpersonal Problems Cold/Distant, IIP SI = Inventory of Interpersonal Problems Socially Inhibited, IIP NA = Inventory of Interpersonal Problems Non-Assertive, IIP OA = Inventory of Interpersonal Problems Overly Accommodating, IIP SS = Inventory of Interpersonal Problems Self-Sacrificing, IIP I/N = Inventory of Interpersonal Problems Intrusive/Needy; RSQ = Relationship Scales Questionnaire.

* $p < .05$. ** $p < .01$. *** $p < .001$.

ed, after accounting for the measure's test-retest reliability (i.e., Scharfe & Bartholomew, 1994). The results of the reliable change index analyses are summarized in Table 3. The RSQ scales on which the greatest number of participants were classified as improved included the Secure subscale (30 participants, or 20.7%) and the Fearful subscale (29 participants, or 20.0%). Fewer participants (9 or 6.2%) showed improvement on the Preoccupied subscale.

Standard regression analysis was used to assess how well the Secure, Fearful, and Preoccupied RSQ residualized gain scores (i.e., RSQ subscales exhibiting significant change following treatment) in combination predicted change in interpersonal functioning (see Table 4). The RSQ measures in combination reliably predicted change in all IIP subscale scores with the exception of IIP I/N.

DISCUSSION

Our analyses indicated significant improvement on self-reported Secure and Fearful attachment styles following participation in our intensive group-oriented program. Our findings are consistent with previous investigations (Kilmann et al., 1999; Levy et

Table 3. Reliable Change Index Classifications

Measure		Improve <i>n</i> (%)	No change <i>n</i> (%)	Decline <i>n</i> (%)
Relationship Scales Questionnaire	Secure	30 (20.7)	114 (78.6)	1 (0.7)
	Preoccupied	9 (6.2)	136 (93.8)	0
	Fearful	29 (20.0)	111 (76.6)	5 (3.4)
Inventory of Interpersonal Problems	Domineering/ Controlling	6 (4.1)	138 (95.2)	1 (0.5)
	Vindictive/ Self-Centered	20 (13.8)	119 (82.1)	6 (4.1)
	Cold/Distant	17 (11.7)	128 (88.3)	0
	Socially Inhibited	45 (31.0)	98 (67.6)	2 (1.4)
	Non-Assertive	49 (33.8)	90 (62.1)	6 (4.1)
	Overly Accommodating	48 (33.1)	95 (65.5)	2 (1.4)
	Self-Sacrificing	28 (19.3)	116 (80.0)	1 (0.7)
	Intrusive/Needy	11 (7.6)	130 (89.7)	4 (2.8)

al., 2006; Travis et al., 2001) suggesting increased attachment security following psychotherapy. The amenability to change of Secure and Fearful attachment via psychotherapeutic intervention is consistent with attachment theory. It is necessary for the client to experience a safe, empathic therapeutic environment to work through underlying attachment-related thoughts and feelings. Group psychotherapy may be especially helpful in leveraging the therapeutic milieu and group culture in order to establish a climate of safety and trust, which in turn may facilitate the challenging of maladaptive relationship beliefs and strategies typical of fearfully attached individuals. Preoccupied attachment style demonstrated somewhat less robust evidence for improvement, and there was no statistically significant change in the Dismissing attachment style.

We predicted that changes in self-reported Attachment Style would lead to positive changes in interpersonal functioning. Multiple regression analyses indicated change on seven of the eight

Table 4. Summary of Standard Regression Analysis for Change in Attachment Predicting Change in Interpersonal Functioning

	RSQ Secure	RSQ Fearful	RSQ Preoccupied	R ²	F
IIP D/C					
<i>B</i>	-.137	.098	-.019	.084	4.34**
SE	.059	.071	.074		
<i>B</i>	-.213	.126	-.021		
IIP V/SC					
<i>B</i>	-.214	.030	-.123	.072	3.63*
SE	.079	.095	.099		
<i>B</i>	-.251**	.029	-.103		
IIP C/D					
<i>B</i>	-.177	-.127	-.151	.100	5.24*
SE	.071	.086	.089		
<i>B</i>	-.225*	.133	-.137		
IIP SI					
<i>B</i>	-.061	.278	-.005	.122	6.54***
SE	.068	.081	.085		
<i>B</i>	-.081	.305***	-.005		
IIP NA					
<i>B</i>	-.172	.376	.111	.241	14.91***
SE	.075	.090	.093		
<i>B</i>	-.193*	.347***	.089		
IIP OA					
<i>B</i>	-.149	.326	.092	.220	13.29***
SE	.068	.082	.086		
<i>B</i>	-.185*	.333***	.082		
IIP SS					
<i>B</i>	-.152	.121	.142	.106	5.55**
SE	.071	.086	.089		
<i>B</i>	-.193*	.127	.129		
IIP IN					
<i>B</i>	-.052	-.053	.065	.015	.73
SE	.056	.066	.069		
<i>B</i>	-.091	-.076	.080		

Note. IIP D/C = Inventory of Interpersonal Problems Domineering/Controlling, IIP V/SC = Inventory of Interpersonal Problems Vindictive/Self-Centered, IIP C/D = Inventory of Interpersonal Problems Cold/Distant, IIP SI = Inventory of Interpersonal Problems Socially Inhibited, IIP NA = Inventory of Interpersonal Problems Non-Assertive, IIP OA = Inventory of Interpersonal Problems Overly Accommodating, IIP SS = Inventory of Interpersonal Problems Self-Sacrificing, IIP I/N = Inventory of Interpersonal Problems Intrusive/Needy; RSQ = Relationship Scales Questionnaire. * $p < .05$. ** $p < .01$. *** $p < .001$.

IIP subscales (excluding the Intrusive/needy subscale) was significantly associated with change on one or more of the RSQ subscales. Indeed, change on two of the RSQ subscales (i.e., Secure, Fearful) significantly contributed to change on six of the eight IIP subscales. Not surprisingly, increases in attachment security contributed to five of the seven significant regression equations, while decreases in fearful attachment accounted for substantial variance on three IIP subscales (i.e., Socially Inhibited, Non-assertive, and Overly Accommodating). These findings are consistent with previous research findings linking secure and fearful attachment styles to positive and negative therapeutic outcomes respectively (Joyce, Ogrodniczuk, Piper, & Sheptycki, 2010; Levy et al., 2011).

Consistent with previous research (Kilmann et al., 1999; Levy et al., 2006; Travis et al., 2001), the results from this study found dismissive attachment styles more resistant to change, suggesting differing therapeutic approaches/techniques may be more effective for individuals characterized by this style. Individuals with Dismissive attachment styles tend to minimize the value of relationships and prefer to assert independence instead (Connors, 1997). They also demonstrate less conscious anxiety, more distrust and devaluing of caregivers, and problems engaging relationally (e.g., Bartholomew & Horowitz, 1991; Brennan & Shaver, 1998). As a result, the vulnerability required for deep emotional work (especially in a group setting) may be unfamiliar and undesirable. As indicated in previous research, a confronting and interpreting psychodynamic group treatment could prove too difficult for these patients if modifications are not provided (Sachse & Strauss, 2002). Clinically, the establishment of therapeutic rapport/relationships with these individuals may require a psychotherapeutic approach that includes more initial preparatory work facilitating a conscious awareness of the importance of engaging with others, and establishing the group leader as engaged, supportive, and accepting (Kirchmann et al., 2009). Additionally, as treatment proceeds, the dismissive patient may benefit from work that engages and integrates the perspective of others (e.g., therapist/group members).

The effect size representing change in Preoccupied attachment was small, and change in this attachment style did not predict

change in interpersonal functioning. Bartholomew and Horowitz (1991) describe the Preoccupied attachment style as high in attachment anxiety and low in attachment avoidance, or as viewing the self as negative and others as positive or supportive, often resulting in idealization and dependence on others for a sense of well-being. Further, these individuals tend to be over-involved in current relationships, often engrossed angrily in past relationships, and demonstrate high emotional reactivity (Bartholomew & Horowitz, 1991; Main & Goldwyn, 1998). For patients who have preoccupied attachment styles, time-limited psychotherapy, especially in a group-based setting, may initially result in positive feelings of acceptance, understanding, belonging, and deep connection; however, these patients might resist attempts to promote and facilitate the process of separation and individuation, which is essential to emotional health and well-being. Improved psychotherapy outcomes may be observed if these patients are encouraged to recognize and value their own emotional needs throughout the therapy process.

There are several limitations of this study to be noted. First, as the participants were individuals with significant DSM Axis II pathology participating in a DTP, the findings may be limited to similar populations of patients involved in intensive group treatment. Second, non-independence between scores of group members may undermine the statistical assumptions of ANOVA and regression models (analyses used in this study). Although the participants were not in an analytic sense consistently nested within a given group, as group membership in our program changed frequently due to rolling admissions (i.e., admissions and terminations), the possibility of mutual influence cannot be overlooked. The risk of non-independence of scores (arguably the most important factor leading to non-independence of group members' scores according to Kenny and colleagues (Kenny, Mannetti, Pierro, Livi, & Kashy, 2002)) was likely reduced by frequent (daily/weekly) changes in group composition and the nature of our program, whereby all group members attend all groups and are expected to complete all aspects of the program, and clinicians actively foster a group culture that discourages subgrouping. Third, we utilized a self-report measure of attachment style, as opposed to an interview-based measure such as the Adult Attachment In-

terview (AAI) (George et al., 1985). Self-report measures focus on the individual's conscious beliefs and appraisal of experiences in close relationships, whereas interview methods assess coherence of narrative (as indicative of attachment security) and reflective ability about self and other (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010). Critics of self-report measures note their inability to determine when defense mechanisms distort the respondent's answers and their inability to assess latent (non-activated) attachment phenomenon. The Adult Attachment Interview has been found to have only a small or trivial overlap with self-report measures, and the two assessment methods have been found to operate independently with regard to correlates of personality and interpersonal functioning (Roisman et al., 2007). It is our belief that leveraging conscious as well as unconscious forces in the service of working through is essential, and following successful treatment, when unconscious affective material is integrated into conscious understanding, these assessments should be more aligned. Future studies, using the AAI alongside the RSQ pre- and post-therapy, may facilitate a greater understanding of the importance of increasing awareness of previously unconscious working models of attachment in reducing interpersonal pathology in the context of group psychotherapy. Fourth, as this study relied on self-report measures, the findings may be partly attributable to shared method variance, social desirability bias, and/or demand characteristics. As this was a naturalistic study, there was no control group, and although unlikely, we cannot be sure the observed changes would not have occurred without treatment. Finally, longitudinal investigations are needed to clarify the directionality (i.e., whether changes in attachment precede changes in interpersonal behaviors or vice versa); while the obtained associations are consistent with the compelling theoretical notion that changes in attachment patterns mediate changes in interpersonal pathology, other interpretations of the correlational data cannot be ruled out by the present methodology.

CONCLUSION

Our data suggest that short-term intensive and integrated group psychotherapy, as exemplified by our day treatment program,

may be a promising treatment that reduces attachment pathology among a broad range of characterologically disturbed patients who have marked difficulty in connecting or empathizing with others and who exhibit severe axis II symptoms. Moreover, our findings that improvements in attachment patterns relate to improvements in interpersonal functioning clearly merit further investigation. Examining attachment patterns in the context of group-based interventions may increase our understanding of the psychological mechanisms underlying attachment-related changes and help us improve outcomes by aligning our interventions to better address differing attachment styles.

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